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Ongoing initiatives enhance GE
prospects for growth in the 1980s



GE 1980 Annual Report

Contents

3	Financial highlights	25	Management
4	Comments from the Chairman and Chairman-elect	28	Financial review
6	Consumer Products and Services	33	Report of management
9	Industrial Products and Components	33	Report of independent certified public accountants
12	Power Systems	34	Financial statements
15	Technical Systems and Materials	37	Summary of significant accounting policies
18	Natural Resources	38	Notes to financial statements
20	International	44	Segment information
22	Board of Directors	46	Ten-year summary
24	GE people		

Cover: New luster for the familiar General Electric symbol, the GE monogram, is sought through the wide diversity of growth businesses presented in this Annual Report. Having maintained its earnings momentum through the U.S. recessionary period of 1980, General Electric anticipates a new surge of growth, with the revival of the U.S. and world economies.

Note: Unless otherwise indicated by the context, the terms "GE," "General Electric" and "Company" are used on the basis of consolidation described on page 37. Unless otherwise indicated by the context, the terms "Utah" and "Utah International" mean Utah International Inc., as well as all of its "affiliates" and "associated companies" as those terms are used on page 37.

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The 1980 Annual Report is an issue of *The General Electric Investor*, published regularly to inform share owners and investors about activities of the General Electric Company. Others may receive the *Investor* on request.

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Printed in U.S.A.

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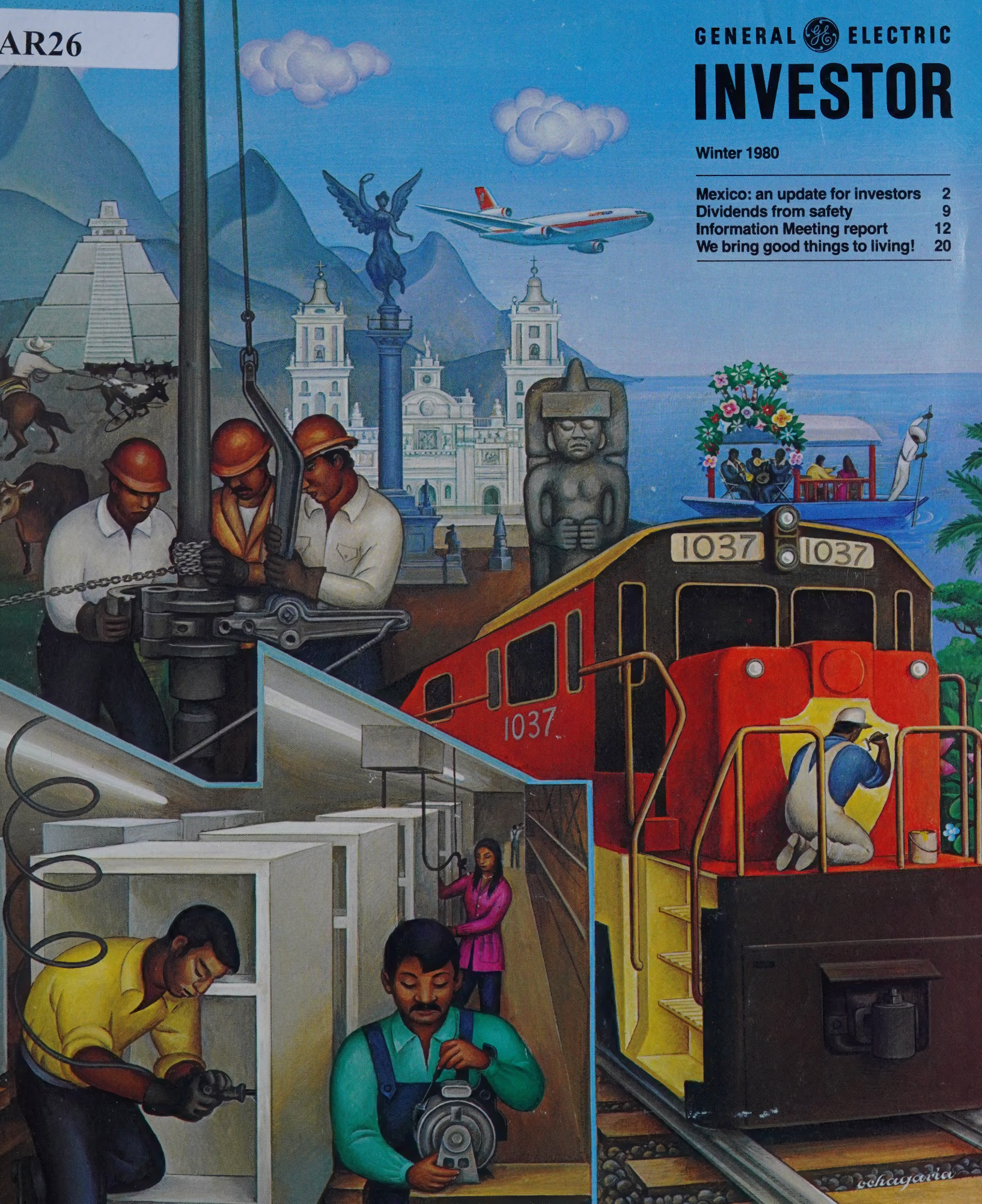
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INVESTOR

Winter 1980

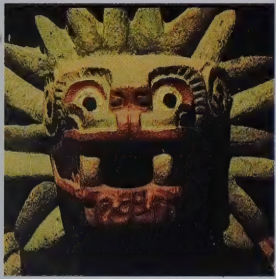
Mexico: an update for investors	2
Dividends from safety	9
Information Meeting report	12
We bring good things to living!	20



Mexico: an update for investors

With its heritage as a vibrant prologue, a 'new Mexico' is taking shape – bustling with growth, increasingly affluent, using its oil wealth to achieve full membership in the ranks of 'developed' nations. General Electric has a multiple role in this drama of progress and change.





"Mexico, through a combination of favorable circumstances, has not only overcome the recession, but its economy has expanded as never before in its history," President José López Portillo proudly told Mexico's 68 million citizens September 1 in his fourth State of the Nation address.

The President had good reason to be pleased. Despite recession in the U.S. and economic lethargy worldwide, Mexico's economy is booming, and most political and economic observers agree that this is no flash in the pan. "We are growing rapidly, and our present problems are no longer those of stagnation, much less deterioration, but of accelerated development," he said.

For Mexico, the result is a progressive business environment, dynamic growth and political stability. The private sector — bolstered by a record \$1.4 billion foreign investment this year — is receiving the government's strong support.

Uppermost in Mexico's developmental plans is its booming petroleum industry which has climbed to fifth place among the world's oil producers. Oil export revenues in 1980 are expected to earn the country more than \$12 billion, and Mexico's petrodollars could top \$300 billion in the 1980-90 period. Since word of its vast new oil discoveries reached the world in 1978, the country has continued with an enviable run of oil strikes, raising its proven oil and natural gas reserves to 60.1 billion barrels and potential reserves to 250 billion barrels.

The country's present oil production, exceeding 2.3 million barrels per day, seems minuscule compared to its huge reserves. New fields continue to be found, not only offshore in Campeche Bay but also in the Reforma Basin along the borders of the southeastern states of Chiapas and Tabasco. Matching Mexico's oil wealth are its gas resources, much of this gas being separated from oil in refineries and pumped through a new pipeline for use by Mexican industry.

The López Portillo administration sees Mexico's petroleum wealth as a resource to be put to work, over the next two generations at least, to provide a much-needed social transformation. A critical need for Mexico is jobs and, while the oil revenue cannot buy jobs directly, it can finance the job-making process by such means as offering industrial incentives.

An investor's eye, viewing Mexico today, is drawn to the many advantages the country has in its drive to complete its transition to that of a "developed" nation. The advantages aren't only in people resources and natural deposits. There's also the rich heritage of its Mayan and Aztec archeological treasures and baroque antiquities, now being carefully preserved by expert hands. And, to top off these solid assets, there is the country's wealth of palm-fringed beaches, in such popular sun spots as Acapulco, Cozumel, Ixtapa and Cancún.

With both the treasures of the past and the pleasures of the present as drawing cards for visitors, it's no wonder that tourism ranks second only to oil as the largest generator of foreign



To entice more visitors to "The Amigo Country," Mexico's airlines are expanding their DC-10 fleets, equipping them with GE's CF6 jet engines. The country's exceptional charm attracts millions of tourists yearly to such places as Mexico City's flower marts and the Xochimilco floating gardens.



Left: pre-Columbian temples and present-day oil rigs, both seen in Mexico's Chiapas state, are producing discoveries of enormous benefit to the nation's people and economy. In the Reforma Basin, close to the ancient Mayan city of Palenque, GE ac generators are among the Company products employed in Mexico's ongoing successful quest for oil and natural gas.

exchange in Mexico. Encouraging foreigners to visit "The Amigo Country," the national tourist agency is projecting six million tourists from abroad by 1982 – and up to a 15% annual increase during the remainder of the 1980s.

Fully as impressive to a visiting investor is the Mexican government's approach to its new oil wealth. The approach is expressed by a metaphor: Mexico will "sow the petroleum," using petrodollars not to import food and luxury goods, as many other oil-endowed countries have done, but to develop the economy. President López Portillo's goal is, in his words, "to transform non-renewable resources into renewable wealth" through oil-financed industrialization. Oil revenues are helping to broaden the economic base, improve agriculture, develop basic industries for export as well as for the domestic market, and create jobs and attack poverty at all levels.

To be sure, the attention being devoted to the nation's artifacts has a more lasting relevance than its boon to tourism. The pre-Columbian pyramids and palaces underlie a new rise in national pride, purpose and power. Mexico has found its place in the sun. Emboldened by mammoth oil discoveries and its treasure-trove of other minerals – e.g., silver, copper, uranium and zinc – Mexico is adopting a more vigorous foreign policy and no longer sits in the shadow of its northern neighbor.

In 1979, the nation's Gross Domestic Product, at \$120 billion, exceeded early estimates and showed nearly an 8% rise. This year, a similar rise in GDP is estimated and also in 1981 and 1982, according to Wharton Econometric Forecasting Associates. Through 1990, the annual growth rate is pegged at 8-10%.

The 'new Mexico,' strengthened by its growing world stature, recognizes that acceleration of the economy is the key to solving socioeconomic concerns. Programs to stimulate industrial

growth are flourishing, swept along by an increasing national vitality. That this new spirit has caught hold is borne out by Alfonso Zorrivas, manager of the Relations and Administration Operation for General Electric de Mexico, S.A. (GESAMEX).

Notes Zorrivas: "Every training opportunity we initiate is enthusiastically received. Mexican employees are strongly motivated toward skills development and upward job mobility. GESAMEX now is expanding its development courses involving manufacturing, quality control and finance — and management training courses, normally taught at General Electric's management development institute in Crotonville, New York, are being started in Mexico City. Our Unidad ("unity") program, designed to build a sense of mutual responsibility between managers and subordinates, is very successful."

Such personal commitment and resolve shape an attractive backdrop for investment in Mexico. Business participation there, of course, must be with the realization that the country wants to become more self-reliant. Not all development plans can begin immediately, because of shortages of skilled people.

"Mexico has embarked upon a crucial building effort," commented Hugo B. Margain, the Mexican ambassador to the U.S., during a recent *Investor* interview in Washington, D.C. "Our demographics are different from most other developing countries, in that we already have 30 years of industrialization upon which to build, with a resulting population overcrowding in certain areas. Special ways to achieve our goals must be devised, and these take time. Aggressive private enterprise and foreign investment and technology are essential for the rapid restructuring and upgrading of Mexico's economy."

When President López Portillo donned the green, white and red sash of his office on December 1, 1976, he moved quickly to build confidence in the economy and to encourage both do-

Symbols of Mexico's proud heritage, the 150-foot-high Independence Monument – popularly called the *Angel* – and Indian artifacts in Mexico City's National Museum of Anthropology recall distinct stages in the country's development.

Mexico:
where GE expertise is at work

mestic and foreign investment. He has cut the national budget, curtailed inflationary deficit spending, worked to streamline the bureaucracy, and given his blessing to political reforms.

Importantly, in the view of international bankers and economists, he has charted an oil policy which calls for petroleum sales based on Mexico's economy and not on the market demands of consuming countries.

His administration also has tackled Mexico's biggest single problem – its soaring population growth. Social programs to reduce the birth rate have been able, lately, to claim encouraging results. Each year, though, another 800,000 people enter the labor market. Half the population is age 15 or under, and the total population is doubling, at the present rate, every 24 years.

Further, of the 34 million in the working-age group, only 18 million are fully employed. Job creation is a paramount need.

In response, Mexican leaders are turning to export expansion as a chief strategy for combating economic inefficiencies. The López Portillo administration believes that industry can only continue to grow – and create more jobs – by learning to export. That, it argues, was the path out of underdevelopment previously chosen by South Korea and Brazil, among others.

By 1990, the nation hopes to become a net exporter of industrial goods, and obtain 85% of its 1990 foreign earnings from industrial products versus 15% from oil. To realize that goal, the President has stressed investment in capital goods and strategic materials. His administration is focused on attracting medium-sized exporting industries as well as heavy-machinery manufacturing – now the largest import expenditure. Agribusiness also is being pushed, to boost the supply of foodstuffs.

As is the case with the majority of Western World countries, Mexico has a mixed economy in which the government takes an active role. Officials stress, though, that government's partnership in business investments is not directed against foreign companies, but in favor of domestic enterprise. "Mexicanization" laws passed in 1970 and 1973, limiting foreign investors to 49% ownership, did not affect already existing relationships.

A laboratory of economic development, Mexico is breathing new life into its institutions and infrastructure. The size of the middle class is growing. A microwave communications grid links almost every community in the country, and additional power lines are being extended to developing areas.

Electrical generating capacity has been increasing at nearly 10% a year recently, and this rate is expected to jump to nearly 13% a year in the 1980s. Some 16.4 million kilowatts will be installed by year's end, and 17 million more kilowatts are scheduled to be added during the next decade.

In April, General Electric announced that it had negotiated the largest contract for locomotives in its history, with the National Railways of Mexico. The agreement, which could run to more than \$1 billion, calls for GE to deliver a minimum of 60 and up to 100 locomotives or locomotive component sets each year for ten years. The Company, with 357 locomotives already in Mexican service, has been the primary locomotive supplier there in recent years. An additional 31 units, over and above the new contract, will be delivered this year.

The component sets will be assembled at National Railways shops in Aguascalientes, 250 miles northwest of Mexico City.

To keep abreast of the growing volume of air travel to and from Mexico, the country's two international air carriers plan to



Mexico's Federal District Police use GE two-way radios to coordinate activities. At Cerro Gordo near Mexico City, wringer washers are manufactured for export, and also are offered – along with a full line of consumer products – at nine Mexican retail stores operated by the GE affiliate GESAMEX.



increase their fleets by more than half during the next three years. Presently, GE's CF6 jet engines are in operation on Aeroméxico's two DC-10 aircraft. The airline has ordered two additional DC-10s, both equipped with CF6s. Mexicana, the other international carrier, has five DC-10s on order, also specified with CF6 engines.

Because of Mexico City's high elevation, 7,300 feet, these airlines are pioneering with a new model DC-10, the DC-10-15, equipped with specially rated CF6 engines. The unique combination of lower airplane weight and higher thrust engines with reduced fuel consumption enables a 75% increase in range over that of standard DC-10-10s operating out of Mexico City.

"Industrial investment in Mexico grew last year at more than twice the pace of the economy," observes General Electric's Willis E. Forsyth, VP and general manager of Latin American Operations. "The government plans to invest more than \$35 billion in industrial growth by the end of 1982. Private investment may more than match that sum, ushering in the greatest industrial investment boom in Mexico's history."

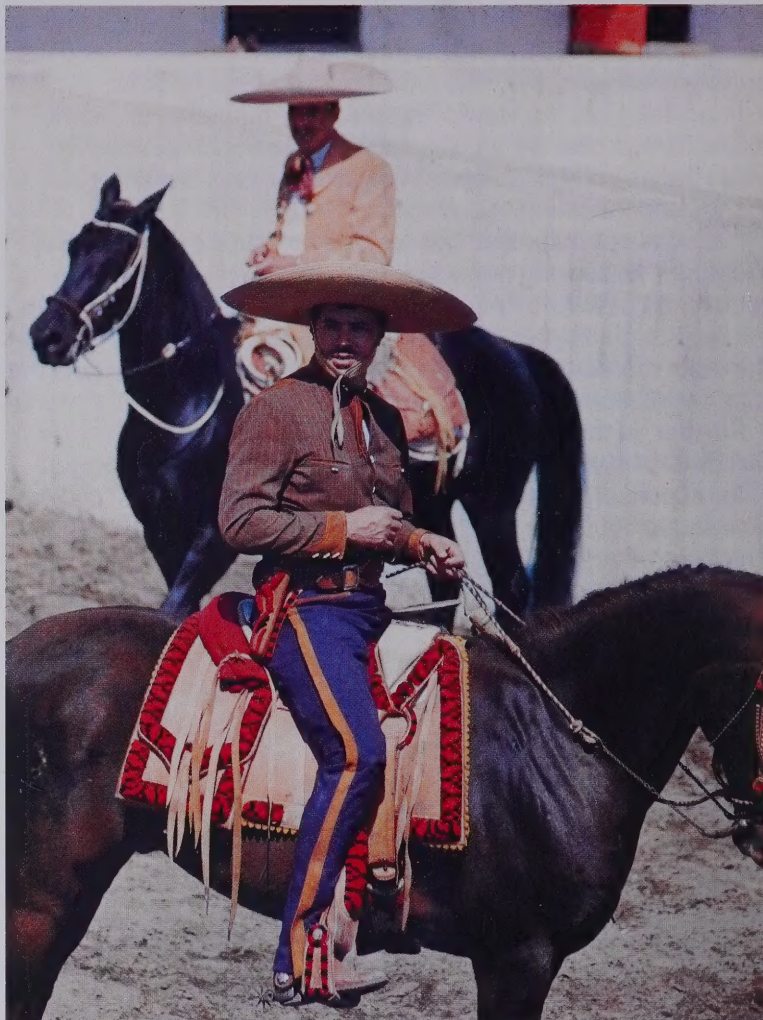
One example of GE's contribution to Mexico's steelmaking expansion is at the Altos Hornos de México steel mill located at Monclova in the northern state of Coahuila. A new tandem-cold-rolling mill was commissioned in 1978, incorporating GE electric drive and automation systems. During the last decade, the Company has provided computerized hot strip mill drives and control systems to a number of Mexican steel customers. The GE natural resources affiliate, Utah International Inc., continues to sell Australian coking coal to Mexico's steel industry.

The cement industry is another integral ingredient of Mexico's present and future, and here too, General Electric is playing a major role. This year, GE won a \$3.5 million order from Cooperativa Manufacturera de Cemento Portland La Cruz Azul S.C.L. to supply motors, variable speed drives, transformers and switchgear for its Lagunas plant in Oaxaca state. The Company won this expansion order based on its performance in supplying much of the same equipment at the customer's cement plant in Cruz Azul, Hidalgo.

Axiomatic to any country's industrial growth is its production of natural resources, and GE electrical equipment is being extensively used in Mexican copper mining as well as other mining applications. At the Compañía Minera de Cananea copper mine southeast of Nogales in Sonora, GE motor-generators and drive motors are powering electric shovels, and GE motorized wheels on 120- and 170-ton haul trucks are transporting ore to the crusher. GE electric drives to power rotary blast hole drills are used here, as are a variety of GE induction and wound-rotor motors for the crusher and grinding mill.

"Mexico represents a huge market for all kinds of goods," remarks Frank D. Kittredge, VP and general manager of Latin American Business Development Division. "According to a National Foreign Investment Commission study, Mexico needs to invest more than \$40 billion through 1986 to meet domestic requirements for capital goods alone. By then, Mexico should be supplying about half of its manufacturing needs – meaning a market of about \$10 billion exists for local and foreign companies to bid for over the next six years."

'Flexibility' is the key word in Mexico's industrialization plan – a point the country's leaders continually make to the interna-

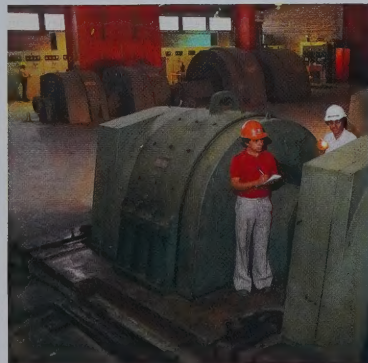


A *charreada*, the Mexican cousin of the rodeo, brings skills of the *charro*, or cowboy, to the arena of competition. In the same spirit, Mexico is determined to meet its transportation needs, and GE recently signed the largest contract for locomotives in its history, with National Railways.





In industrial Monterrey – Mexico's "colossus of the north" – GESAMEX manufactures lamps, including Lucalox® high-pressure sodium units. Below: at Monclova, northwest of Monterrey, Altos Hornos steel plant employs GE large dc motors, synchronous motors and control equipment.



tional investment community. The government doesn't want its policy to be a rigid blueprint for industrial development.

Agustin de Leon, president and general manager of GESAMEX, comments: "Mexico's pragmatic policies should cause no severe difficulties for any foreign firm that responds to national objectives and practices good corporate citizenship. There is recognition that foreign investment – while only 5% – is vital, accounting for nearly 20% of manufactured exports."

GESAMEX continues to be a principal means by which General Electric share owners participate in Mexican growth opportunities. The affiliate is 90%-owned by GE, with 10% of its shares owned by Mexican investors since 1968.

Company operations have been a part of Mexico since 1896, and today form the country's largest full-line electrical manufacturer. Total GE systems sales there in 1979 were \$307 million, a 52% increase over 1978.

The longest-operating manufacturing component, in Monterrey, produces Lucalox® high-pressure sodium, mercury vapor, fluorescent and incandescent lamps which are sold domestically as well as being exported. Operations in Cerro Gordo near Mexico City turn out broad lines of major appliances, housewares, television sets, audio components, and various types of electrical and electronic industrial components and contractor equipment materials. Service continues to be a business growth area: teams of field engineers handle on-site installation, maintenance and modernization of major electrical and mechanical equipment. Three service shops repair many types of industrial apparatus, and fleets of consumer service vehicles are ready to respond to customers' calls.

To help meet Mexico's industrial decentralization and exporting goals, GESAMEX this year obtained land for a new housewares manufacturing facility, located in an industrial park at Querétaro northwest of Mexico City. Within two years, GESAMEX intends to be producing hand irons there, and eventually other housewares products. Some 93% of the irons are targeted for the export market.

GESAMEX is a strongly Mexicanized operation, with only 15 foreign employees among its nearly 6,000 people. President Gus de Leon was born in Monterrey, with GE experience in Mexico and Brazil. Of the 15, mostly in managerial and technical positions, he says: "They have dual work responsibilities: to accomplish their professional duties and to transfer innovative technical skills to Mexican employees who, through training, can be ready to replace them." Many key positions, including management of the consumer products, services and legal operations, are now held by Mexicans.

The affiliate's contributions to Mexico are many. Notes de Leon: "Besides creating jobs and exports that are helping secure the Mexican future, our company offers a means by which the country can tap the worldwide resources of General Electric. High-technology, high-investment products are in great demand in Mexico's economy, and GE is eager to coordinate its goals with the interests of its customers."

Many exciting business prospects within Mexico continue to be explored by General Electric. The Mexican petroleum sector, obviously, is a main focal point for potential GE business. Under the dense canopy of tropical forest in the Reforma Basin, where many recent oil strikes have been made, numerous GE products are in use: GE drilling motors, marine ac



Immense Tula warrior-priest statues located in Hidalgo state are not far from a new cement plant (below left) at Cruz Azul which uses GE ac motors and adjustable speed drives. In Sonora state, gigantic haul trucks powered by GE motorized wheels are in round-the-clock service at Cananea copper mine, where field engineer Stephen Powles (right) calls on customers.



generators, transformers, switchgear and control centers.

This summer, for offshore oil drilling in Campeche Bay, the Company sold 17 LM2500 marine gas turbines to two original equipment manufacturers for \$26 million. This order – the largest single industrial sale of these gas turbines in GE's history – calls for the units to be mounted on platforms where they will drive gas compressors to pump natural gas ashore to petrochemical plants and pipelines. Orders also have been received from Petróleos Mexicanos (Pemex), the national oil company, for four LM2500s to drive compressors in pipeline pumping stations near Veracruz and at Reynosa near the Texas border.

Mexico's ambitious nationwide electrification plan is another area of opportunity for the Company. To date, some 85 GE-designed gas turbines are in operation or on order in the country, for supplying electrical power in a majority of the Mexican states. Recently, Comisión Federal de Electricidad (CFE), the national utility company, purchased six General Electric MS6001 gas turbines, a new Company heavy-duty power generation gas turbine. CFE already has started up four of these units at power stations in the northern border cities of Ciudad Juárez, Piedras Negras and Rio Bravo.

This summer, the utility ordered a 400-megawatt STAG[®] (steam and gas) combined-cycle plant valued at over \$100 million, to be built near Monterrey. Also under construction, near Veracruz, is Mexico's first nuclear generating plant which will contain two GE 654-megawatt steam supply systems.

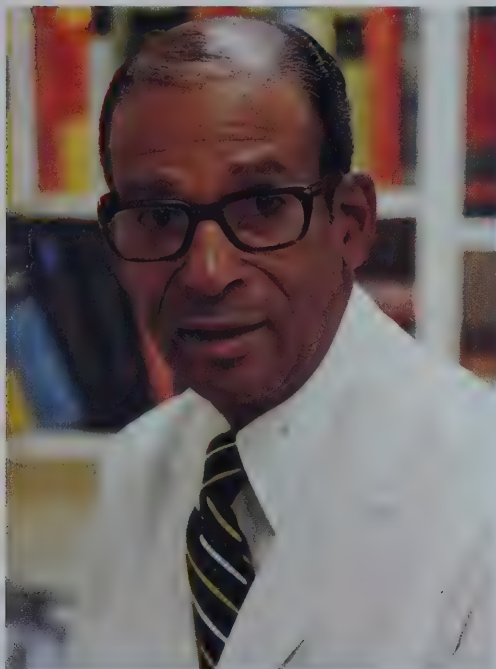
"The various sectors of General Electric are supporting all types of high-priority governmental programs," says de Leon. "Canadian GE this year was asked to supply the auto headlamps for the 1980 Volkswagen Beetles and Mini-buses produced at the VW plant in Puebla. A local manufacturing associate, Industrias Resistol S.A., is expanding its compounding of Lexan[®] and Noryl[®] polycarbonate resins used in automotive and audioelectronic applications, respectively. And GE's local FM-mobile-radio production is being expanded."

One key method by which Mexico's leadership has been attempting to create jobs, decentralize industry and boost exports is through its Border Industrialization Plan, where Mexico waives restrictions on imports and foreign capital to be used by factories – on condition that 100% of the products are then exported from Mexico to earn foreign exchange and not compete with national firms for the local market. The U.S., for its part, taxes the "value added" on the products when they recross the border. Various of GE's U.S.-based operations have built component-supply and -assembly facilities in Mexico's outlying regions. The country's new gas pipeline – now nearing completion and eventually to stretch from the Reforma area to Ciudad Juárez on the border – will provide a ready source of low-cost energy for these "in-bond" plants, or *maquiladoras*.

Says de Leon in summary: "It no longer is possible for a foreign company to enter a country with the sole objective of fulfilling its strategic business purposes. To keep Mexico's economic fires glowing bright and hot, a company such as General Electric must be a vital, dynamic participant in all types of local activities, including establishing a marketing and manufacturing presence. GE must provide a sound return on the investment of share owners' money – while making significant contributions which are in step with the nation's development."

The accomplishments of General Electric in Mexico hold great promise for further progress in both these areas.

Dividends from safety



Dr. Thomas R. Casey, Vice President and Company Medical Director, heads up an organization that regards a safe, healthy working environment as critically important not only to employees but also to the welfare of GE and its share owners.

It's common knowledge today that employees in American industry are, on the average, three times safer at their places of work than in their homes. For General Electric employees, the odds in comparison with national averages are even more favorable. Analysis of the Company's U.S. operations shows the GE average for reportable accidents running only about half the national average among U.S. manufacturers. As for more serious lost-time accidents, the GE rate is only about one-third the average.

That these superior safety records are no accident nor just a matter of luck becomes abundantly clear in a discussion with Dr. Thomas R. Casey, Vice President and Company Medical Director.

"General Electric has long been conducting, voluntarily, the sort of health and safety program that is now mandated by law," Dr. Casey recently told the *Investor*. "Today we take great pains to be in full and strict conformance with government regulations, but we are not limited by them. Our policies and practices go well beyond the requirements. We think this larger approach to minimizing the hazards of the workplace isn't just a matter of good employee relations. In these adversary times, when the potential penalties and liabilities for inadequate performance can be punitive, our approach is critical to the welfare of the Company and is in the interests of its share owners."

The major change reflected in GE's program, in Dr. Casey's view, is a broadening of concern for employees' welfare. "We seek to minimize not just the loss of life and limb by accidents but also the *unseen* hazards of work-related diseases that may take 20 to 30 years to show their effects."

This larger approach has brought increased responsibilities to GE physicians and nurses. "Our medical staffs are concerned with a great deal more than simply treating the ills of those who come into GE clinics," Dr. Casey pointed out. "Their responsibilities include concern for identifying and controlling the potential health hazards of the workplace — the possibilities of employees' exposure to excessive toxic substances, dust, noise and the like. Their efforts are complemented by our expanding numbers of industrial hygienists — men and women trained in detecting, measuring and controlling those factors which may adversely affect employee health."

At GE today, the efforts of physicians and nurses are coordinated with the long-established GE corps of safety specialists, whose responsibility is to concentrate on lessening the risks of work hazards and preventing accidents. "General Electric has been a leader in employee safety for many decades," Dr. Casey observed, "and our present program is staffed by a cadre of experienced people."

All in all, he explained, "General Electric's health and safety organization, Company-wide, has increased about 50% over the past ten years and now includes nearly 600 people."

GE's support of its health and safety program constitutes what Dr. Casey termed "a good investment — on several different levels."

On one level, he regards the GE program as "an investment in productivity": "Along with industry generally, GE is caught between the relentless upward pressure that inflation exerts on our costs and the limits on price increases imposed by intense competition and governmental guidelines. The result is an intense squeeze on earnings. The Company's best answer is to improve productivity — to make every dollar invested in manpower, materials and energy produce more. Our role in im-

Environmental Health Laboratory chemists Richard Palo and Linda Holmes in Bridgeport, Conn., use sophisticated equipment to help detect, measure and control health hazards in the workplace. The lab is a corporate-level resource available to all General Electric operations.

proving productivity is to prevent the illnesses and accidents that cause lost time and drive up the costs of employment. It means helping to keep GE people healthy and on the job, full-time."

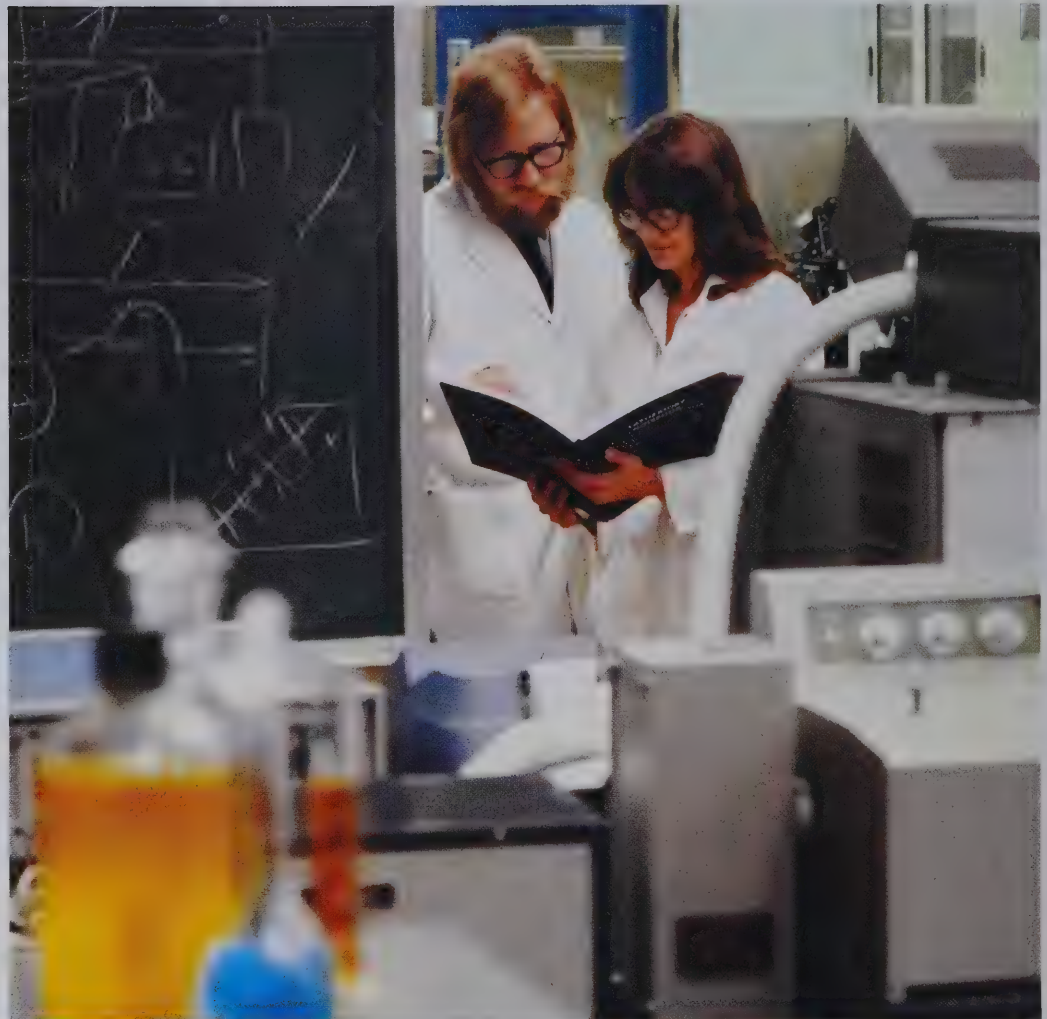
On the economic level, he remarks: "For a Company that is as much in the public eye as is General Electric, the rewards from successful programs – and, conversely, the damage that can result from failure – are multiplied. Also, there has been a tremendous growth of governmental intervention in this area, especially with the passage of the federal Occupational Safety and Health Act (OSHA) in 1970. In view of the greater social expectations faced by industry today, our enhanced health and safety program at General Electric simply makes good business sense."

But while the productivity and economic objectives are compelling, Dr. Casey made clear that the overriding reason behind the GE drive to provide safe and healthy working conditions is the human level: "As our Chairman, Reg Jones, has expressed it, 'We are a community, and we care about each other. That is the basic moral commitment that energizes our health and safety programs.' We who conduct the GE programs honor that commitment. We do it because we care."

GE's larger approach to providing a healthy, safe working environment is succeeding, Dr. Casey believes, because it has received "the full support of GE operations people."

This support begins with the direct personal involvement of management. "Our GE Health and Safety Policy assigns to managers at all levels the responsibility for fulfilling health and safety objectives for their employees and facilities. GE managers have stepped up to this responsibility. They have shown visible, involved leadership in seeing that safety practices are observed."

The program has also received "the dedicated cooperation of first-line supervisors." Dr. Casey sees supervisors as



the prime communicators on safety matters: "With guidance and help from our health and safety professionals, these supervisors can set the pace for their operations, explaining in lay terms the potential hazards of specific work functions and getting employees' cooperation in observing sound safety procedures."

Ultimately, though, the program rests on the safety consciousness of all employees. "While most people tend to be cautious by nature, we've found it necessary to go beyond relying on natural prudence. Best results come when employee awareness of health and safety is stimulated by imaginative employee education programs. It's essential to correct the idea that 'safety is somebody else's job.' The key to success is for each employee to be instilled with a sense of responsibility for his or her own

safety and the safety of associates. We've seen GE components that had so-so safety records raise themselves to our top ranks simply by conducting ingenious and resourceful programs that got everybody's attention and cooperation, and that sharpened their determination to work safely."

Dr. Casey and his associates are not content to measure the success of the Company's health and safety program only by comparing GE statistics with national averages. Regularly they conduct what he calls Component Health and Safety Conformance Appraisals. He explained: "A team consisting of a physician, industrial hygienist

Members of health and safety team (below) at Gainesville, Fla., Battery Department plant are (l to r): Ursula M. Harder, manager – Environmental Programs; Industrial Hygienist Charles J. Myers; and James W. Gould II, of Advanced Manufacturing Technologies. At right, top to bottom: Safety

Specialist Joseph E. Ponzio (r) discusses safety with machine operator. Dr. Edward G. Byrne and head nurse Cynthia Marion prepare employee for regular respiratory check-up. And Myers attaches air-monitoring device to battery assembler Dorothy Green.



and safety engineer travels to a GE operation and subjects it to a rigorous analysis, seeking out exceptions to Company policies or regulatory requirements."

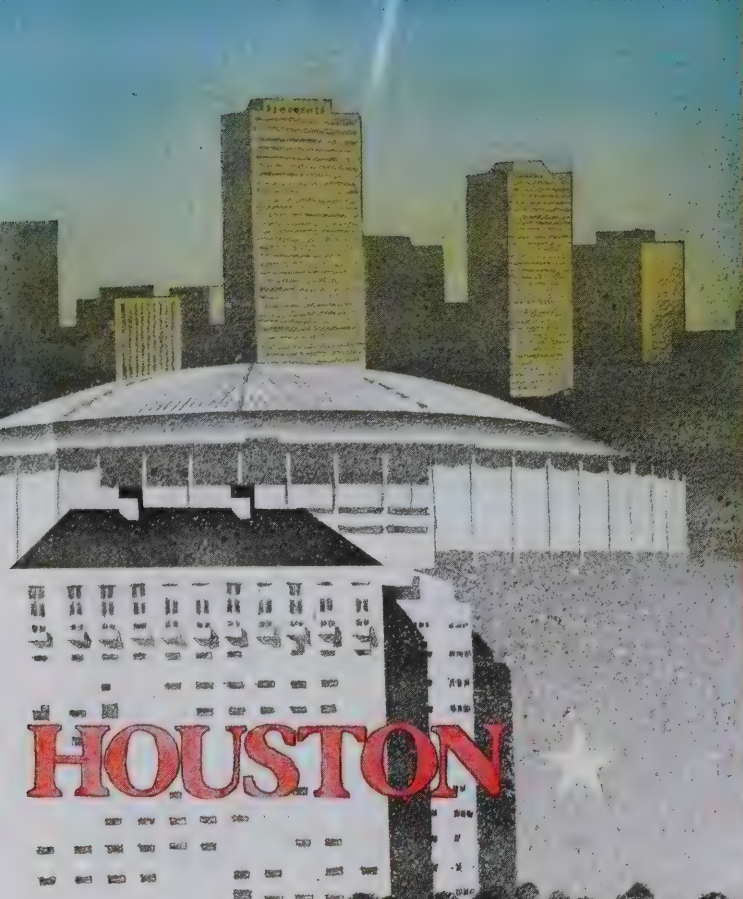
When the appraisal is complete, the final report is discussed openly and freely with the responsible manager and his staff. "Management understands that we go looking for weak spots, for places where improvements in work practices would better protect employees. Managers have entered into these efforts with a cooperative spirit, making on-the-spot commitments to carry out the designated improvements. We feel sure that there is a direct correlation between these uncompromising appraisals and our good health and safety records."

GE's Medical Director summed up by affirming that "we at General Electric have an ambitious health and safety program that involves substantial efforts."

While GE performance is high among industrial leaders, Dr. Casey is not content: "We've set 'stretch' goals for GE components in order to step up our rate of improvement year by year. We will continue to seek not merely to be in full compliance with government regulations but to go beyond them. While it's not possible to create a totally hazard-free workplace, any more than a hazard-free home or highway, we aim at narrowing the gap for GE people."

Despite the scale and costs of GE's program, he and his associates are convinced that a successful health and safety program pays for itself. "It minimizes grievances, litigation and lost

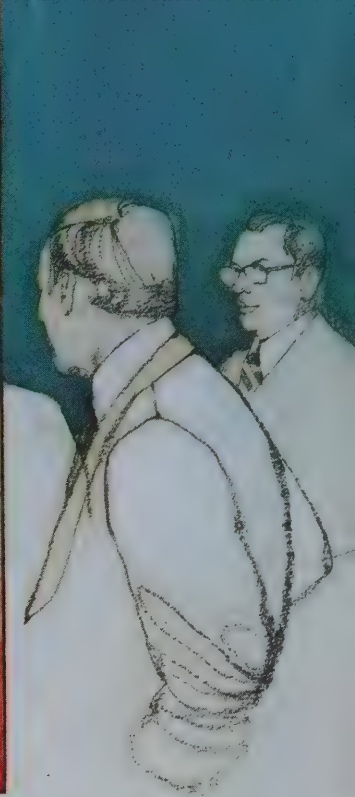
time. It diminishes the inevitable disruptions involved in OSHA investigations of more serious accidents. It reaps dividends in greater efficiency and heightened productivity. An effective program is essential to high employee morale. As we see it, our intensive health and safety program helps to create the proud, productive organization that is General Electric, an organization concerned with the worth of every individual associated with it, and one that can excel in maintaining a competitive and profitable performance."



HOUSTON



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Acuña

Five specific developments to achieve sustained earnings growth

Assembled in the progressive Sun Belt city of Houston at the start of a new decade, share owners attending the 1980 General Electric Information Meeting had an opportunity to meet personally with the Company's Board of Directors during a morning kaffeeklatsch before the session, and later hear GE's top officers report on "major developments which have positioned your Company for the 1980s."



In his opening remarks, Chairman Reginald H. Jones pointed up the importance of having business leaders speak out on public policy issues: "Our nation has just emerged from a troubled decade. There were discouragements along the way but the efforts of many companies, including General Electric, are finally beginning to bear fruit. We now hear

much of supply-side economics in Washington. The nation's exports are growing as their importance to our total economy is increasingly recognized. And we even have the first, faltering steps of an energy program."

While being active on the public issues front, GE manage-

ment also has taken a number of steps to help the Company achieve sustained earnings growth in the 1980s. The Chairman discussed five specific developments already under way "to accomplish our goals for the 1980s."

One of the most important moves, he told his audience, has been to put in place "new approaches, systems and organizational structures for General Electric which are operating in an evolutionary and non-disruptive way." The Chairman observed that "strategic planning has become a way of life at GE. The effect of performing in-depth analyses of market share, competition, the business environment, profitability and the cash-generating power of each business has enhanced the performance of your Company in sales, earnings and many other areas."

Securing GE's technological future

Another important initiative discussed by the Chairman is GE's preparation in terms of its scientific and technical skills. The electronics field is a key thrust. "Several major investments show our determination to maintain or win leadership in electronics," he remarked. "Last November, the Company announced a \$58 million expansion of our corporate Research and Development Center. More than half of that investment will go to one of the most modern electronics and computer science laboratories in industry. Another \$55 million is being in-

Before hearing reports by members of General Electric's Corporate Executive Office, share owners spoke informally with members of Company's Board of Directors (below, starting from center left): Richard T. Baker, James G. Boswell II and, right, Vice Chairman Edward E. Hood, Jr. At far right: Directors Samuel R. Pierce, Jr., Gertrude G. Michelson and George M. Low chat with share owners.



vested in a new Microelectronics Center at North Carolina's Research Triangle Park. And in August, we announced a \$31 million expansion of our Industrial Electronics facilities in Charlottesville, Virginia. The anticipated \$235 million acquisition by merger of Intersil located in Cupertino, California, will round out our capabilities in integrated circuit design, processes and manufacturing."

The massive GE Corporate Technology Study launched in the mid-1970s, he said, "continues to have profound results. Our strategic business units now have carefully developed technical strategies thoroughly integrated into their strategic business plans. The Company's own research and development expenditures last year reached \$640 million — 23% higher than 1978 — and 56% higher than 1977's \$409 million." Among the practical results of this depth study, he explained, has been the creation of operations "responsible for disseminating knowledge of automated production, computer-aided design and manufacturing, and microelectronics throughout GE."

He told his listeners that the Corporate Technology Study, importantly, "is conditioning the way we recruit, train and retrain people to secure the human resources needed for success."

Turning to a third area of development, the Chairman cited actions by General Electric management which "have created a major new source of earnings in materials, both natural and man-made. We sell more engineering plastics than our principal competitors and are a leading supplier of such diverse materials as tungsten carbide, silicones and synthetic diamonds. We're now building a new manufacturing facility for diamonds and other super-abrasives in Ireland to serve growing world markets — and, during the last ten years, introduced several new families of engineering plastics. GE plastics — Lexan®, Valox®, Noryl® and Genal® — are now found on more than 100 automotive applications where strength, coupled with light weight, is desired."

Regarding natural resources, he characterized the wealth that Utah International has in the ground as "more than a source of current profit — it also is a powerful hedge against inflation. This dynamic part of your Company has been stepping up its exploration and acquisition programs. With an eye to the growing attractiveness of energy markets, Utah acquired extensive steam coal reserves in Kentucky this year and, through the Utah subsidiary, Ladd Petroleum, is accelerating its drilling and exploration activity worldwide."

'A truly internationalized company'

A significant ongoing move referred to by the Chairman is the Company's worldwide business development activities. "General Electric became truly internationalized during the 1970s," he said, "and starts the new decade with nearly 40% of its income deriving from foreign sources, including exports from the U.S. — and more than one quarter of its 400,000 employees are foreign nationals."

The U.S. as a whole is running huge deficits in its trade balance, he commented, "but your Company last year had a favorable balance of trade of \$2.4 billion. We were, in fact, the nation's second-largest industrial exporter."

But none of these moves would be possible, in Chairman Jones' view, without General Electric's strengths in finance. "Certainly not the least source of positioning for the 1980s has been the strengthening of your Company's financial base. Take earnings. Over the last decade, General Electric's earnings have grown at an average annual rate of 14.9% — substantially faster than the 9.9% growth rate of the U.S. economy and the 10.7% rate of the Standard and Poor's 400. This earnings record was not achieved with 'creative accounting' nor at the expense of investments in the future. GE spent nearly \$8 billion during the 1970s to provide an expanded and modern production base."

Questions at the 1980 Information Meeting included a request to know the outlook for General Electric's international business. The photograph at right marks a milestone in the progress of the Company's sale of gas turbines. Shipment of this MS9001E 105-megawatt turbine caps GE's program to design a gas turbine exclusively for the fast-growing 50-Hertz international electric utility market.

The MS9001E is attractive to international customers because of its ability to operate efficiently on natural gas, distillate oil, crude oil and residual oil.

The unit shown, to become part of a combined-cycle power system serving Kirchleugern, West Germany, can produce electricity for a city of 100,000. The unit was sold to AEG-Kanis, a GE manufacturing associate in Essen.

Largest heavy-duty General Electric gas turbine ever built by the Company, as well as the largest unit ever exported from the U.S., the MS9001E was shipped from GE's Greenville, S.C., plant.



He summed up: "Our financial resources are quite ample to bring us through the recession and to finance our future growth. Our portfolio of cash and marketable securities is about \$2 billion. And on top of that, we have plenty of available borrowing power – given our debt-to-capital ratio of 20% and a Triple-A credit rating."

Opportunities in international, natural resource spheres



The 1980 Information Meeting gave share owners their first opportunity to hear reports from the Company's new Vice Chairmen. Vice Chairman John F. Burlingame reported on a wide range of GE operations in which "the areas of opportunity are requiring us to think and market in global terms."

As an example, he cited the country of Nigeria. "We opened a tiny office in Lagos, Nigeria, in 1976. Since then, this office has achieved nearly \$200 million in sales. With Nigeria's oil wealth and ambitious economic plans, that is only the beginning."

Burlingame made the point that General Electric is a strong participant in Mideast development. "GE sales in Saudi Arabia should exceed \$500 million in 1980. Last year, we won the largest utility heavy-duty gas turbine contract ever awarded in the country – a plant utilizing 16 gas turbines for a price of over \$200 million." In Egypt, the Company is the nation's biggest supplier of power generation equipment, and this year received orders for utility steam turbines and industrial steam turbine-generators.

In the industrializing countries where GE has had a longtime

presence – such as Brazil and Mexico (see cover story on pages 2-8) – he defined GE's strategy as "using our presence and reputation as a lever for expansion and diversification, thus enabling more Company businesses to build on the established structure." Burlingame noted that, in Brazil, "GE has an innovative and mutually beneficial agreement with the government, called BEFIEX, which will build Brazilian exports and generate several hundred million dollars in additional income and cost benefits to the Company over a 12-year period."

Moving to Far East business activities, the Vice Chairman touched on a number of recent successes: "In Taiwan we are joint-venture partners with Taiwan Power Company to produce steam turbine-generators." The utility has committed to purchase 7,150 megawatts of GE fossil-fueled units, with an immediate order for two 550-mw units. In Japan, he said, GE achieved nearly \$1 billion in business last year, and "we presently have nine separate joint ventures there."

The key to profitable business in any nation, he summarized, is in "matching one's goals and objectives with the economic and social needs and priorities of each country. Many of GE's large projects and orders have resulted from our sensitivity to these requirements."

In the natural resources arena, Burlingame discussed Utah International's "significant and growing portion of our overseas operations" and its substantial resource development activities in the U.S. and abroad.

Noting Ladd Petroleum's expansion of its operations in the U.S., Canada and overseas, the Vice Chairman pictured this Utah subsidiary as displaying a keen entrepreneurial spirit: "Offshore of Italy, in the Adriatic, Ladd and its partners plan to complete their first exploratory well by year end. Other targets include the Congo, the outer continental shelf of North America, and offshore Aruba in the Caribbean."

He also highlighted Utah's Island Copper Mine in British Co-

"Hot corrosion" is a problem in gas turbine buckets – those scoop-shaped airfoils that are spun by hot combustion gases, making the turbine rotate. Now, scientists and engineers at GE's Research and Development Center and Gas Turbine Division have developed an effective new method for combating hot corrosion in gas turbine buckets. It's an improved corrosion-resistant coating that prevents combustion gases from contacting the buckets' base metal, which can be susceptible to hot corrosion.

Preliminary laboratory tests indicate that buckets coated with the new material should last some 40,000 hours in the most hostile corrosive environments. This would be triple the life expectancy of uncoated buckets under such conditions.

A proprietary blend of cobalt, chromium, aluminum and yttrium, the new coating is the latest in a series of increasingly effective corrosion-resistant materials invented by GE researchers.



lumbia which reached near record levels of production last year, and cited Utah's recent acquisition of steam and coking-coal reserves in Kentucky. "This move," he stated, "adds an important new dimension to General Electric's U.S. coal business. Gaining access to Eastern U.S. ports will augment our already substantial business in the expanding European coal market."

GE's future in energy, high-technology markets



Growth capabilities envisioned for General Electric's energy and high-technology markets were reported by Vice Chairman Edward E. Hood, Jr.:

"Your Company is positioned to play a key energy role in helping reduce American dependence on uncertain sources of supply," he said. "Our strategy is to have the best expertise and hard-

ware available when and where they're needed."

GE is the world's leading manufacturer of power systems equipment, Hood observed, and is involved in virtually every advanced energy option – including the nation's largest industrial solar energy program. "Also, coal-derived liquid fuels could become a \$1 billion annual market for new equipment by 1990 – much of which we can supply." The Company is participating in a \$300 million project to build the nation's first large-scale power plant for converting coal into a clean gas which will drive electricity-producing turbines.

"This concept," he said, "could become the lowest-cost,

most efficient, environmentally clean way of using coal to produce electricity."

Hood pointed out that GE's power systems market is worldwide in scope – citing recent sales successes for turbine-generator units in Taiwan, Spain, Israel and Canada.

Turning to opportunities in aerospace technologies, the Vice Chairman reviewed GE's commercial aircraft engine program: "In the last few years we've won over 50% of the high-bypass engine orders for wide-bodied jets – starting from essentially zero share of the market ten years ago. GE engines now have been selected by over 70 airlines. We are well-positioned with our CF6 family of engines and the CFM56 we've developed with SNECMA, the French engine company."

He added that the Company continues to be a strong military engine supplier and "we're also expanding in marine, industrial and business jet markets."

As for the future of GE engineered materials, he termed them "one of General Electric's greatest success stories." This business has grown to more than \$1.5 billion in annual sales. "Markets for man-made materials will continue their strong growth during the 1980s – driven by worldwide need to conserve energy, produce more energy and improve productivity."

Among other success stories Hood mentioned were GE medical systems and information services. "The Company has carved out new opportunities for profit with such electronics-intensive medical equipment as the CT scanner and advanced ultrasound equipment." Also, "GE has become a leader in remote, interactive computer services. Our 1979 earnings exceeded 1969 sales.

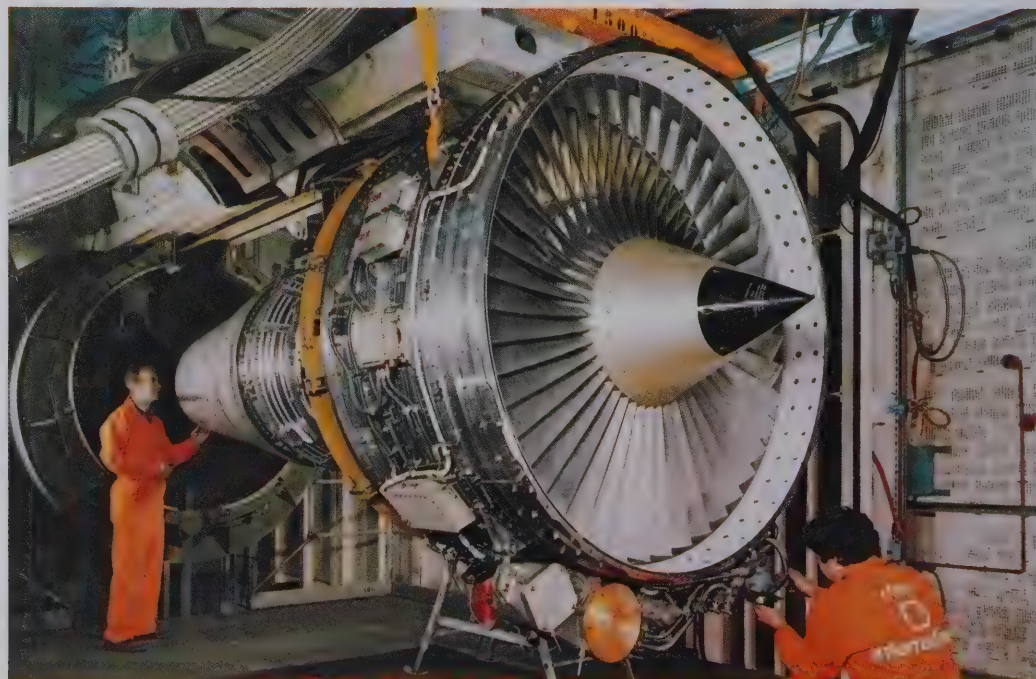
"These high-growth businesses, and others I've described," he continued, "can become large, new core businesses for the Company in the 1980s and early '90s. Most are on the leading edge of technology, and we are making substantial new investments to strengthen their competitive leadership."

Here, sitting for its portrait, is a highly successful new engine for the world's aircraft. It's called the CFM56 high-bypass turbofan. Airlines like it because it surpasses requirements for low levels of noise and emissions, and its fuel consumption is as much as 20% lower than for older engines.

The 24,000-pound-thrust CFM56 is a product of CFM International, a company jointly owned by General Electric and SNECMA of France.

The CFM56 engine has been selected by eight operators as the new powerplant for DC-8 aircraft in their fleets, and the U.S. Air Force has awarded a contract to the Boeing Military Airplane Company to begin a research and development program to re-engine its fleet of KC-135 tankers with CFM56 engines.

Designers of the CFM56 have their eyes on further market development. The engine is also offered in a reduced size at a thrust rating of 20,000 pounds, making it ideally suited to power smaller twinjets of the mid-1980s.



Prospective growth in consumer, industrial areas



Reviewing the spectrum of opportunities in General Electric's consumer and industrial businesses, Vice Chairman John F. Welch, Jr., told his listeners that market success in these Sectors means "translating your needs and mine, and the needs of our nation, into business and product strategies for the 1980s."

In the consumer area, he said, the Company is addressing the wants and needs of the quality-conscious, time-pressured buyer. "Today's consumer is looking for products that last – quality items that simplify our lives, reduce hassle and free up time – time to do what we want, time to be who we want to be," Welch continued. "Providing quality and saving time – simple as they may appear – represent the key to GE's consumer success."

He shared some examples of how this concept, put into practice, has strengthened GE in the marketplace: "Our new Great Awakening[®] clock radio has a computer in it to help us save time – you only have to set it once; and it's convenient – family members can wake up at different times. An enormous jump in this year's sales rate shows how this product is meeting consumer needs."

The new Brew Starter[®] drip coffeemaker is another breakthrough for time-pressured consumers, Welch continued. "The drip coffeemaker was a good idea because it made better coffee. But by adding a clock to it, our new Brew Starter lets us make coffee while waking up in the morning – allowing us to do two things at once." He pointed out how this "simple innovation,

recognizing convenience – time – catapulted us to a strong position in a high-growth market."

The drive for quality and time – "that's why we've introduced an electronic dishwasher," Welch said. "It not only has the highest quality in washing and energy use, but its electronics also allow it to monitor its own performance, so if something ever goes wrong, service will be faster and easier. It's a very sophisticated machine," he noted, "to make life a bit simpler."

Turning to GE's industrial businesses, the Vice Chairman foresaw excellent prospects for growth, since "they are right in the middle of two major issues confronting the nation – energy and productivity."

In order to lessen dependence on imported oil, he observed, the U.S. must increase coal output enormously: "That spells opportunities for us. Coal has to be mined, and GE's industrial Sector is supplying drives and controls for loader shovels, haulage vehicles and draglines. Coal also must be moved, and we supply locomotives as well as drives for the crushers and pumps of slurry pipelines. We're also in on the oil boom – with the drives and controls on rigs."

Welch pointed out that a second national challenge, productivity growth, also was becoming a focus for action. "Our country is now falling behind in its ability to compete with some other nations. Our factories are old; our machinery outmoded. America, today, needs new factories based on new technologies. General Electric," he continued, "intends to be a leader in providing the nation's industry with the technology and equipment for the factory of tomorrow." And he indicated that GE was making "substantial investments in new technologies, new electronics centers, new laboratories to do the job."

Concluding his presentation, Welch said that the consumer and industrial Sectors' key thrusts – productivity, energy, quality, time – are proving successful because they are "in tune with our needs as a nation, in touch with our feelings as consumers."

The "high-tech" entertainment and education products being introduced in this Video Decade of the 1980s – video cassette recorders, video discs, video games and home computers – are all basically useless without a television receiver.

And GE sees a giant-screen, rear-projection TV set – such as its new Widescreen 3000 Home Television Theater – as the ideal focus for this decade's electronic entertainment-and-information home center.

With a 45-inch-diagonal screen, the Widescreen 3000 provides 1,003 square inches of viewing area for life-size color pictures produced by three picture tubes and then projected by three lenses through glass mirrors onto a special screen developed by GE. The new set has VIR Broadcast Controlled Color, an infrared remote electronic tuning system, and a four-speaker sound system.

Two optional furniture coordinates will house accessory video equipment and a stereo system to form a complete electronic center for the home.



Q&A: broadening share owner participation

Providing replies to written questions either mailed in or submitted by the audience, the four top GE officers responded to a wide range of topics:

Will the inflation picture improve in 1981?

As Americans, "we have to ask ourselves if we have the will power, the self-discipline, to really conquer inflation," Chairman Jones asserted. To do so, it will be necessary to reduce the size of the public sector. "Inflation is caused by the growth of the public sector at the expense of the private sector. It's as simple as that. This is an explanation that satisfies the Monetarist school of economics, it satisfies the Keynesians, the Post-Keynesians, the Sectoral Analysts – because all of them recognize that the public sector creates no wealth." He continued: "All wealth is created in the private sector, and when the public sector grows faster than the private sector, it has to tax the private sector for that support."

The Chairman remarked that "53% of federal expenditures are payments to individuals." Everyone must draw back somewhat from the public trough. Fiscal restraint is needed, along with monetary restraint and regulatory restraint. There must be some sacrifice in such areas as ideology, consumerism, environmentalism. To reduce inflation, "we must let the private sector have its chance to grow."

How is GE management addressing inflation?

Chairman Jones reminded share owners that GE is reporting financial results on an inflation-adjusted basis, and is requiring its internal operations to use inflation-adjusted numbers as well. "Over 1,000 of the managers in your Company recently completed a new course, called COIN (for Coping with Inflation)," which showed them "how misleading historical results are."

Another measure cited by the Chairman is LIFO (last-in, first-out) accounting in valuing inventories. "Our LIFO reserves today are in excess of \$2 billion, so when you see inventories on our statements of \$3 billion, they're really worth more than \$5 billion." GE's cost of sales is determined by the latest price on items it uses in manufacturing its products, and not the price paid when the items were brought into inventory. "We'd be kidding ourselves if we did it in any other fashion," Jones said.

General Electric's use of LIFO contrasts with that of many other companies, he continued: "One of the most disturbing things to us is that two-thirds of the companies in the United States still use FIFO (first-in, first-out) accounting for inventories." FIFO is a practice which allows inflation to generate artificially high earnings.

Won't productivity gains reduce the number of jobs?

Vice Chairman Welch emphasized that "productivity, coupled with U.S. growth, does not mean unemployment." On the contrary, he observed, "it means higher employment." He reviewed for his listeners the relationship of productivity, national growth and demographics – noting how they jointly will determine the economic picture for the 1980s.

"As we look at the decade ahead, we know how many people are available in the work force," Welch said. "The growth in the Gross National Product, which is a measurement of the output of goods and services, is equal to the growth in the labor force plus the growth in productivity." Because of the declining birth rate, the U.S. won't have as many people in the job market. In order to achieve even a 3% increase in GNP – which is only equal to the 1970s and well below the 4% of the 1960s – the nation must boost productivity.

He pointed out that, over the 1980s, America will have only a 1% to 1.5% increase in the number of workers – 1% reflecting the national birth rate and .5% representing the growing num-

A strategic objective of GE is to be a leader in industrial automation. The Company is relying on new product developments to strengthen this push. Pictured at right is a fresh example – one of a new family of productivity-boosting products called programmable controllers. These GE devices use microprocessors to become the "brains" guiding complex industrial operations such as process control, materials handling, machine line control and individual machine control. Result: increased productivity and lower costs.

A special feature of this "Series Six" family is that it incorporates a new concept in programmable controllers by using several of the same modules throughout the family while applying special modules to adapt individual controllers to specific applications.

Thus the same input/output module, as well as memory, programmer, logic control and communications control modules, are used throughout the line. Also – the programming language is the same for all models.



bers of women entering the work force, and other factors. The evidence is clear, he said. If the U.S. can't raise productivity levels to 1.5%, or twice the 1970s' rate of .7%, it can't achieve a 3% rise in real growth. "The last thing anyone should perceive is that productivity and unemployment go together."

The Vice Chairman also mentioned that, from the 1940s to the present, the rate of productivity improvement in each decade is virtually identical "with the percentage increase in real income. So — if we can get the U.S. aimed at the productivity equation, we'll improve our standard of living and we'll have a fully employed work force."

What's the status of GE's nuclear business?

Replying, Vice Chairman Hood noted that "our nuclear fuel fabrication business and our services business are both profitable. The unprofitable segment is the nuclear systems business." He mentioned this business' turnkey-plant losses in the 1960s and its "marginal profitability" in the 1970s, observing that "later in the 1970s the business slipped back into the red, in the face of what amounted to a de facto moratorium on new orders for nuclear systems" and plant delays and cancellations. In addition, he noted "our continuing investment in development and technology as we deliver our backlog of some 40 nuclear plants." But GE's losses are modest, and "we expect them to stay at this level."

Underscoring GE management's belief that nuclear energy must play an important role, along with coal, in meeting U.S. energy requirements, Hood praised the Company's excellent nuclear safety record.

Where will GE's major foreign thrusts be in the '80s?

Vice Chairman Burlingame drew a distinction between the Company's short- and long-term markets. Over the nearer term, he said, "we expect to get our greatest growth in those

countries with the highest GNP growth" — primarily the oil-endowed countries and several Far East industrializing nations. On a longer-term basis, we think opportunities will come "from countries which have a large population and natural-resource base, and have reasonable political and social stability."

Commenting on the Company's use of technical-exchange agreements to promote overseas business, Burlingame observed that General Electric zealously guards "those aspects of its technology advantage that should be maintained." There are certain times, though, when a "technology transfer" is an advantageous arrangement, he added. For instance, "some technology is a pretty perishable commodity," providing advantages with only one or two years' life, and even that will dissipate "if you don't continue to invest in that technology and maintain it." One way to obtain the necessary funds for these continuing investments is through licensing of technology, he noted.

What are the prospects for tax changes favoring business?

Chairman Jones concluded the question-and-answer period by commenting that "there is no question but that Congress in 1981 will pass a tax bill, and that tax bill will give improved capital cost recovery allowances to business."

He characterized this help as "very much in order." U.S. industry can't get increased investment without improved cash flow, and it needs that cash flow so badly that anything that can be done on the tax front would help. "Our capital cost recovery allowances in U.S. industry lag way behind those allowed to our international competitors in the other industrialized nations."

Update on South Africa, a report updated in August 1980, is published to provide interested share owners with information about the current status of GE business operations in South Africa. For a copy, write Investor Relations, General Electric Company, Fairfield, Conn. 06431.

An Information Meeting question concerning General Electric's role in manufacturing electric automobiles was addressed by Vice Chairman Hood: "We have no plans to get into the business of making automobiles. We do plan, though, to be very much involved in the supply of the electrical components and control systems used in electric vehicles."

At right is an advanced "hybrid" car, being developed for the U.S. Department of Energy (DOE) by GE, that will use both a gasoline engine and an electric motor. The test vehicle will run part of the time on gas, part of the time on batteries, or on both when needed.

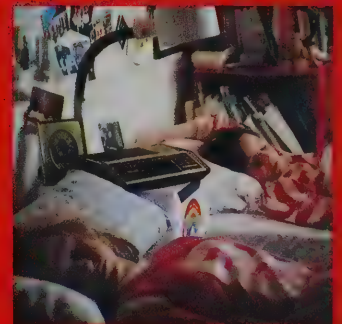
The project is part of a DOE program to stimulate commercialization of electric and hybrid vehicles to help reduce oil consumption. Power will be supplied by a 40-hp GE electric motor and an 80-hp gasoline engine. The car is expected to consume from 40 to 55% less petroleum than a conventional car of similar size over an 11,000-mile driving year.



We bring good things to living...

"New lifestyles, more singles, more working women, more retired people....a more home-oriented culture – all these changes spell opportunity for our consumer businesses, which are striving to 'bring good things to life'."

Pictures on this and the following three pages are from the television segment of General Electric's highly successful, long-term "We Bring Good Things To Life" consumer advertising campaign, designed to make GE an even more visible and valued brand by representing GE consumer products as a single brand inter-relating in thousands of ways each day with people and their lives.



What will the 1980s be like? As a new decade begins, scenarios for the future proliferate. But on the subject of the consumers of the '80s, there seems to be general agreement on one major point – consumers are changing. They are looking for self-fulfillment, self-expression, self-growth. They are putting increased emphasis on non-material values – on adding meaning, not just material assets, to their lives.

And in making buying decisions, they are, more and more, asking *not* "What will the product do?" but "What will it do for *me*? How will it make my life better, easier and more expressive?" and "Will it free me from the chores of living so that I can deal with the pleasures and challenges of my life?"

They are increasingly concerned with quality – quality of life as well as product quality.

And they are re-defining the word "quality" as it applies to the products they choose to fit their diversified lifestyles. Their expectations have risen. They are demanding products that are not only useful, reliable and well-engineered, but also versatile, stylish, easy to service, and incorporating the best in time- and energy-saving features.

Time has become a critical commodity in their lives – especially for the increasing numbers of women who work outside the home. In a survey of problems encountered by working women, time got twice the number of mentions that money received. Women who work are enhancing their options and adding to their affluence – but giving up time.

There is less time to cook meals, for instance... which is one explanation for the extraordinary recession-resistant growth in popularity of GE's microwave ovens: they save time.

The question of time – or more precisely, the growing lack of it in two-income families – is also altering appliance service patterns. In many areas, for example, General Electric has implemented evening and weekend service schedules to accommodate households where adult members work during the day.

The Company's commitment to con-

tinued innovation in products and services to meet the needs of the consumer of the 1980s is a significant one.

The Versatron[®] electronic counter-top oven and the food processor with blender, for example, respond directly to the single apartment dweller's need for space-saving, multifunction products. And the Spacemaker[®] microwave oven, Grill/Griddle range and TimeMaker[®] range with a combination microwave/conventional oven will have special appeal to the increasing numbers of two-income families. With both men and women sharing cooking responsibilities, time-saving convenience becomes a "must" for week-night meals, and cooking appliance versatility is a boon to the growing popularity of weekend entertaining featuring gourmet masterpieces.

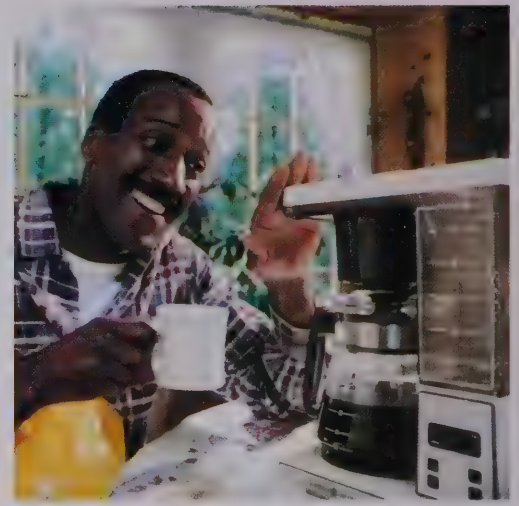
No other company produces more consumer products and services to meet more consumer needs: major kitchen and laundry appliances; central air conditioning and Weathertron[®] heat pumps; personal care products like hair dryers and curling irons; food preparation products such as Toast-R-Oven[®] toasters and coffeemakers; garment care products like irons. Also, home protective products such as smoke and intrusion alarms; radios and tape recorders; television sets; rechargeable batteries; light bulbs and flashbulbs; room air conditioners. And there's the General Electric Credit Corporation which provides a variety of consumer financing plans.

GE's continued responsiveness to people – to their problems and their wants – to their attitudes and their feelings – is being translated, through innovative design breakthroughs and imaginative applications of the new electronic technologies, into meaningful goods and services for this decade's demanding and diversified customers.

As Board Chairman Reginald H. Jones summed it up: "New lifestyles, more singles, more working women, more retired people... a more home-oriented culture – all these changes spell opportunity for our consumer businesses, which are striving to 'bring good things to life'."



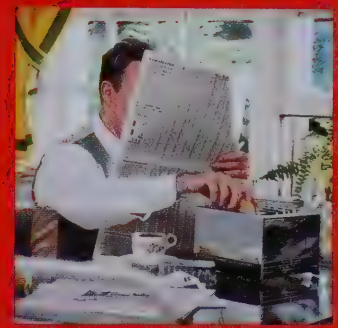
We bring good things to life!



Just about every piece of consumer research on the 1980s tells us that we're looking at the most discerning, most quality-conscious consumer in history. And General Electric is producing for that consumer a broad spectrum of innovative products and services to help make life brighter, warmer, cleaner, simpler and more exciting.



GE's consumer businesses are rooted in one reality: *people*. "We Bring Good Things To Life" is more than just words. It's meant as a dedication to quality.



General Electric doesn't just manufacture products. Its commitment is to think first in terms of what the consumers of the '80s need – and then to produce the *right* products to meet those needs.



INVESTOR

Volume 11 Number 3 Winter 1980

The *Investor* is published by the General Electric Company to inform share owners and investors about the Company. Others may receive the *Investor* on request.

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Expanding GE's technological base

Groundbreaking ceremonies for General Electric's new Microelectronics Center (left) – one of a number of major Company investments in advanced electronics development – recently were held in North Carolina's Research Triangle Park.

Highlighted by Board Chairman Reginald H. Jones at the GE Information Meeting (see pages 13 and 14), this center will transfer new process technologies relating to custom integrated circuits (ICs) into fabrication capabilities.

To assure GE's market leadership in products and systems, microcircuit development at GE is an ongoing effort. For example, at the Electronics Laboratory (above) in Syracuse, New York, work continues on a new generation of custom ICs. Eventually, "bread-boarded" systems such as the one pictured may be contained on a single Very Large Scale Integrated Circuit (VLSI) chip containing 100,000 transistors – as opposed to today's LSI chips with their 10,000 to 20,000 transistors.

Summer 1980

1980 Statutory Meeting Report
Pages 22-23

GE's problem-solving technologies:

- Strengthening energy conservation and alternatives to oil
- Improving productivity to check inflation
- Applying 'the new electronics'
- Developing new materials



GE's problem-solving technologies: energy conservation and oil alternatives

General Electric employs one of the world's strongest technological teams. At work in research, development and engineering for the Company are nearly 13,000 scientists and engineers. The Research and Development Center, which pioneered industrial research in 1900, now spearheads an integrated technological effort that encompasses more than 100 other laboratories associated with product operations. Total Company expenditures on R&D, which rose to \$1.44 billion in 1979, are expected to set another record in 1980.

The outflow of inventions patented in the U.S. by GE in 1979 again exceeded that of any other organization.

The special report in this GE Investor offers proof that this great technological resource is being used responsibly, through the Company's concentration on many of the most critical problems facing the nation. The first examples: the search for new solutions to energy problems, focusing on the development of better ways to conserve energy, and on technologies that will help reduce U.S. dependence on imported oil.



Illustrations of GE technologies include: In the front-cover photograph by Stan Blanchard, the search for more efficient combustors to improve turbine efficiencies; and (above) development of an advanced Defense Satellite Communication System, to strengthen U.S. security.

Energy technologies: new paths to conservation

Outflows of wealth to pay for oil imports amount to a hemorrhage sapping U.S. economic strengths. Dependence on imported oil also makes the U.S. vulnerable to Mideast political instabilities.

The most immediate corrective to these problems is energy conservation. For GE technologists, the search for better ways to conserve energy is a highly active area of concentration, as shown by these examples.

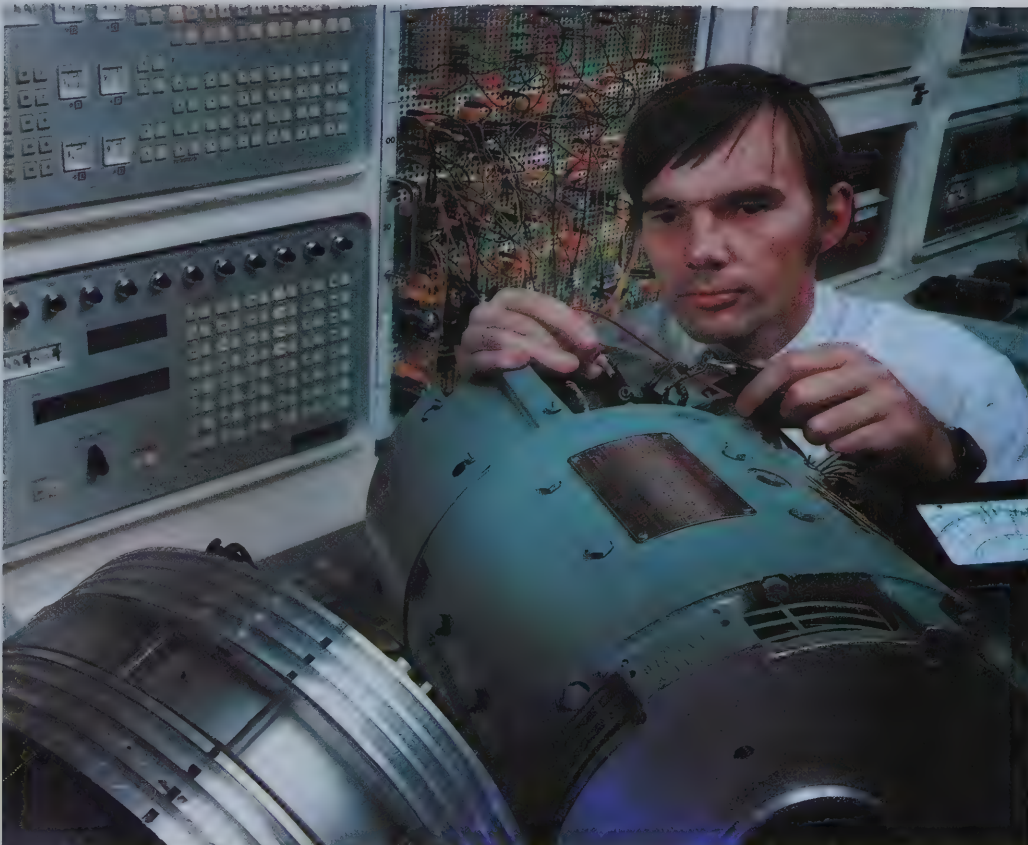
Energy-saving motors and drives

With 800 million motors using about 60% of all U.S. electrical energy, a more efficient operating method would contribute substantially to energy conservation. Available from GE are two answers: motors that use less electric power to operate equipment; and adjustable-speed drives that enable a motor to turn only as swiftly as a given task demands.

The use of GE energy-saver motors offers a potential savings equivalent to 200,000 barrels of oil a day. Depending on the cost of power and motor use, the buyer could recover the extra cost for the more efficient motor in less than a year.

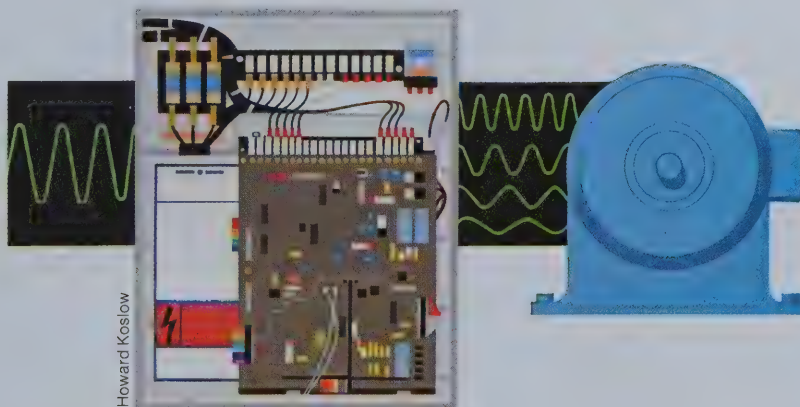
An additional savings equivalent to one million barrels of oil each day could result from use of variable-speed AC drives. These drives are important energy savers in continuous flow operations in the chemical and petroleum industries, where the common practice is to use a constant-speed motor to move fluids at speeds that are varied by valves and dampers. "That's wasteful," says James A. Baker, Executive Vice President and Sector Executive, Industrial Products and Components Sector. "It's like driving your car at full throttle and adjusting the speed with the brakes."

For ten years, GE has supplied AC inverter drives to industry. And through the application of new semiconductor technology, the cost of these inverters has been reduced drastically.



Wayne Lennebacker

Sales of GE energy-saving motors have grown steadily as customers learn that higher prices for these motors can be offset by operating cost savings.



Howard Koslow

GE's new AFTROL I[®] drive diagrammed above enables motors to run at different speeds by varying the frequencies of the current they consume.

Energy-saving consumer products

A growing number of energy-conscious consumers are reacting to inflation and bigger energy bills by looking beyond the price tags of today's products to consider their relative efficiency and operating costs. For such alert shoppers, General Electric offers a number of attractive options.

- Significant improvements in fluorescent lamp efficiencies have resulted in the new "Circlite" that screws into an ordinary incandescent lamp socket and uses but 44 watts to produce as much light as a 100-watt household bulb. The unit's fluorescent lamp has a rated life ten times longer than that of a standard 100-watt bulb.
- An all-solid-state "Energy Conscious" chassis used on 1981 General Electric 19- and 25-inch television sets consumes less energy, operates at cooler temperatures and is more reliable than the previous chassis. The new design uses an average of 100 watts of electricity instead of 143 watts for the earlier chassis.
- High-efficiency designs represent about 60% of the 1980 line of General Electric room air conditioners, which include larger, more efficient motors and more coils for enlarged heat transfer surface.
- The General Electric "Energy Saver" 30-inch free-standing range features a special oven insulating system to provide significant energy savings in baking and roasting when compared with comparable standard GE models. Also, a "Power Saver Control" system on surface units allows preheating at less than full wattage when fast preheating isn't required.

Conservation-minded shoppers will also find new GE refrigerators insulated with efficient urethane foam, as well as low-energy dishwashers, among GE appliances. And, to stop heat loss from homes, General Electric offers silicone rubber caulk, as well as "Draft Stoppers" outlet and switchplate gaskets.



Dave Talbott



Arthur d'Arazien

Above: GE "Circlite" fluorescent light screws into ordinary incandescent socket, pays for itself in energy savings.

Left: air conditioners are considered "high-efficiency" units when they remove 7.5 BTUs of heat for each watt of electricity used. GE offers units with ratios up to 10.6.



Above: silicone rubber caulking from GE helps homeowners plug heat-wasting leaks.

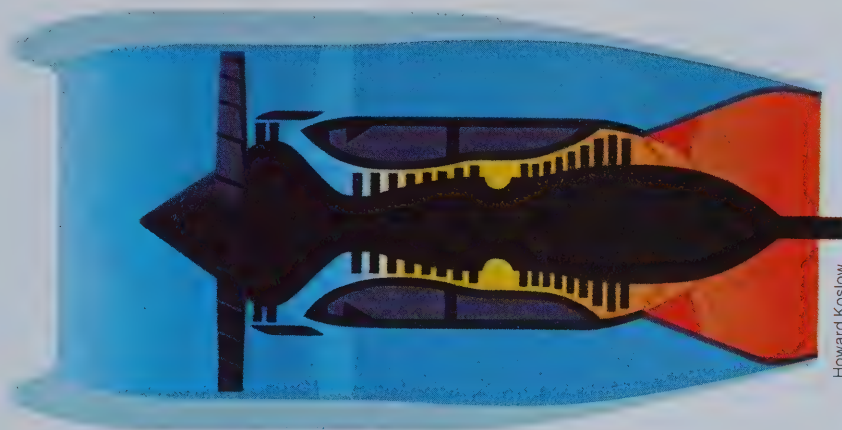
Right: the most energy-efficient no-frost refrigerator produced by GE exceeds California's strict energy guidelines by 22%.



Fuel-saving jet engine

General Electric commercial aircraft engines have long offered airlines advantages in efficiency, low fuel consumption and low-noise design. Now, as part of its continuing efforts to advance this technology, the Company is participating in a major NASA energy-efficient engine program to demonstrate a more-than-12% improvement in engine efficiency.

"Such improvement means that the engine will produce the same amount of thrust at cruise power, but it will consume 12% less fuel than that used by current production engines," explains Martin C. Hemsworth, Chief Engineer for the Aircraft Engine Group. "With aviation fuel prices soaring, the stakes are high for success in this program, since every 1% improvement in efficiency means saving millions of barrels of oil per year for the airlines."



More power with less fuel is the goal for new GE-developed aircraft engine.

Tomorrow's 'Super-turbine' — under GE development today



This sectoral combustor, developed by General Electric and operating at temperatures up to 3000°F on coal-derived fuels, will be a prime component in the environmentally compatible super-efficient gas turbine.

The hotter a turbine operates, the more efficient it is in generating electric power. The present ceiling on turbine operating temperatures is imposed by the ability of the metals in the turbine buckets to withstand the heat. At General Electric, a major new development program is aimed at boosting a gas turbine's "firing temperature" by as much as 1,000°F above the level employed in present-day gas turbines. Through a GE-developed "open circuit" water cooling system, metal parts exposed to ultrahigh temperatures, up to 3,000° F, will be kept well below the limit they can safely tolerate.

The General Electric development program, supported in part by the U.S. Department of Energy, isn't looking toward a small, laboratory-sized mock-up of this high-efficiency water-cooled gas turbine. That development stage has already been successfully passed. The

objective now is to design, construct and test key technologies for a full-scale turbine rated at 72,500 kilowatts.

Improvements in efficiency resulting from successful completion of this project would be dramatic. The Company's experts predict that the high-temperature gas turbine, combined with a steam turbine and powered by coal-derived fuels, would be 20-to-30% more efficient than the most advanced conventional generating systems that are available today. The water-cooled turbine would be able to generate twice the power of existing gas turbines of the same physical size.

This "Super-turbine" is being developed by the Company's Gas Turbine Division, with support from the General Electric Research and Development Center and from other Company laboratories.

Energy technologies: reducing U.S. dependence on oil imports

While energy conservation offers the most immediate effects in stemming the U.S. appetite for oil, conservation alone cannot do the job. The long-term need is to develop energy sources other than oil.

As indicated by these pages, the development of alternative energy technologies represents an area of intensive concentration by General Electric scientists and engineers.

Big oil reductions from electrical substitution

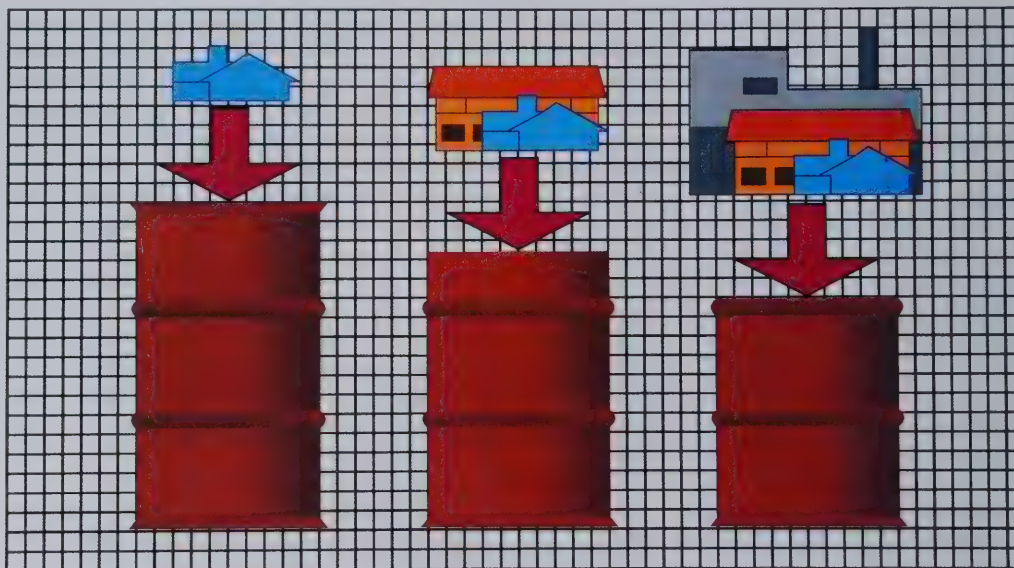
One of the grim anomalies of the present energy situation is that the nation's electrical system remains seriously *under-utilized* even as the U.S. continues its increasingly costly and risky dependence on foreign oil.

With realistic incentives and government support, GE experts believe America's utilities could start using existing power-generating capacity in place of other energy sources. They see the greatest potential in residential and commercial space and water heating.

The chart at right shows what could be the end-result as soaring oil prices narrow the gap between the cost per BTU of electricity and oil: a significant reduction in U.S. reliance on imported oil through successive stages of electrical substitution in residential, commercial and industrial uses.

GE technologists are supporting the drive for electrical substitution in such ways as extending the use of heat pumps – already accounting for heating and cooling in more than one-fourth of new U.S. homes – to commercial and industrial applications.

In addition to industrial heat pump research shown at right, GE's Space Systems Division has developed the prototype of a system using a gas-fueled Stirling engine to drive a heat pump system expected to outperform conventional heating/cooling devices.



Substitution of electricity for oil in residential, commercial and industrial applications could, by century's end, reduce U.S. oil imports significantly – and could scale down a dollar outflow that amounted to some \$60 billion in 1979. The computer-generated graph shown above was created at one of GE's Genigraphics® art service centers.



Henry Groszkinsky

U.S. builders are making enterprising use of Weathertron® heat pumps. This new all-electric Sun House II, built by Bob Schmitt Homes near Cleveland, utilizes passive solar energy via its glass-topped center atrium, with two Weathertrons supplying supplemental heating and cooling. Result: another dwelling that avoids adding to the U.S. imported oil bill.

Below: heat pump for industrial processes, under development at the GE Research and Development Center, offers potential for high-efficiency recovery of industrial heat that now goes to waste.



Stan Blanchard

Clean fuel from coal

Substitute coal for oil and gas wherever possible – that's the objective of a wide array of projects in General Electric laboratories and pilot plants. Coal is an energy source the U.S. has plenty of: known recoverable deposits total some 215 billion tons, enough to supply the country's energy needs for hundreds of years.

GE coal-related projects aim at more efficient combustion techniques and better methods to convert coal to oil and gas. Concurrently, General Electric's natural resources affiliate, Utah International Inc., continues to invest in new equipment, exploration projects and manpower development programs to help meet America's burgeoning coal demands.

General Electric is negotiating with Texaco, Southern California Edison, the Electric Power Research Institute and other utility and industrial firms to participate in a program to build this country's first integrated gasification/combined-cycle (IGCC) demonstration plant. This 100-megawatt facility will convert coal to gas, clean the gas of pollution-causing contaminants, and then burn it to produce electricity. As a participant in this project, General Electric will supply the combined-cycle generating system, consisting of gas and steam turbine-generators, and will be part of the governing body for the program.

General Electric experts see coal gasification as holding the greatest promise of any of the synthetic-fuels processes for power generation. The IGCC plant, scheduled to be completed in 1983, is meant as a prototype for plants of 500 megawatts or more that could compete in cost with plants that burn coal directly, but not have their pollution problems. If the project is successful, it could make available to the utility industry in the late 1980s a more economic and environmentally acceptable option for generating electricity from coal.



GE affiliate Utah International is stepping up its efforts to add to the nation's coal pile. Shown: coal-handling equipment at Utah's Navajo mine in New Mexico.

From coal to clean gas fueling a General Electric combined-cycle generating system – that is the goal of new large-scale California project.



Howard Koslow

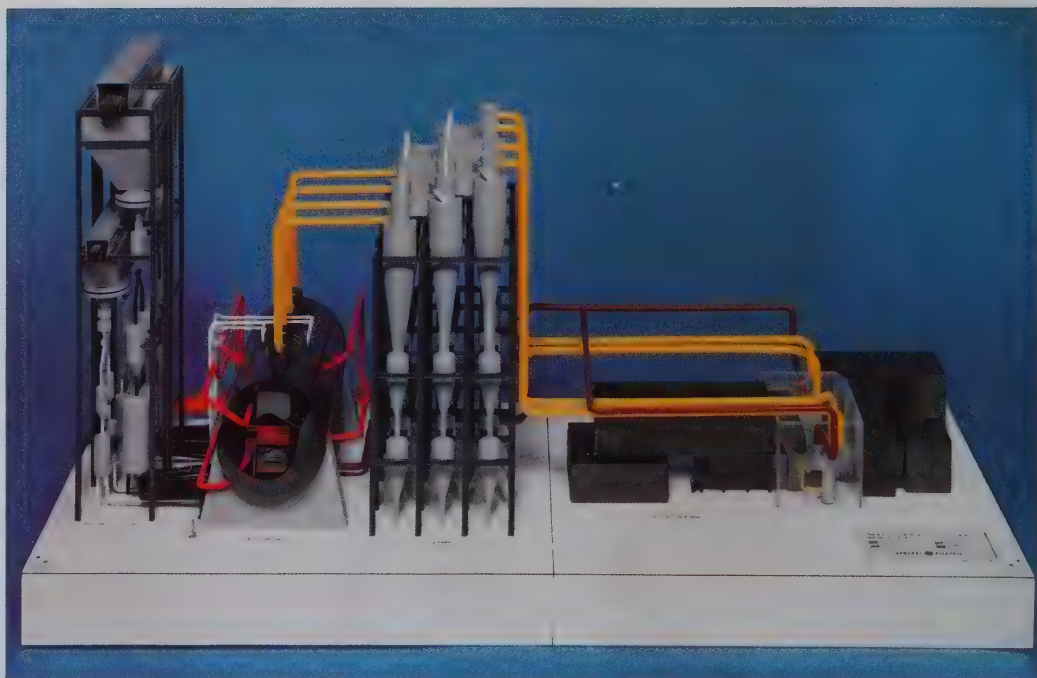
PFB combustion aims at clean burning of coal

Another GE technology seeking clean heat from coal is that of Pressurized Fluidized Bed (PFB) coal combustion. In this process, the compressed air from a gas turbine churns a bed of red-hot coal and dolomite granules to remove the coal's sulfur by combining it chemically with the granules.

The PFB Steam Supply Module shown at right consists of the PFB combustor/steam generator, particulate removal equipment and the gas turbine. Installed to provide steam to existing utility turbine-generators, this system would provide cleaner burning than oil firing, and would be competitive in costs.

Success obtained in technology and component development prepares GE to proceed to utility demonstration of this system, aiming toward commercial sales by the late 1980s.

To convert existing generating plants from oil to coal, GE proposes development of a demonstration module of the Pressurized Fluidized Bed steam supply system.



Applying fuel cells to electric power systems

The fuel cell, a battery-like device that converts the chemical energy in fuels directly into electricity, is another of those developments that have been around for years – General Electric fuel cells provided on-board electrical power during the Gemini and Bio-satellite space missions in the 1960s and will be used in the U.S. Space Shuttle program.

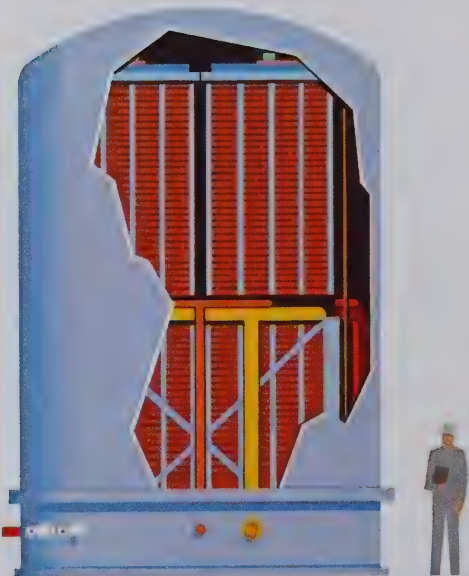
Now, though, the desire to achieve clean energy from coal is spurring an intense new interest in applying fuel cells in large electrical generating systems. Because the fuel cell does its work without combustion, it offers significantly higher efficiencies than are possible through coal-fired generation.

General Electric scientists are concentrating their efforts on the molten carbonate fuel cell, in which electricity and hot gas are produced by the electrochemical interaction of oxygen with hydrogen-

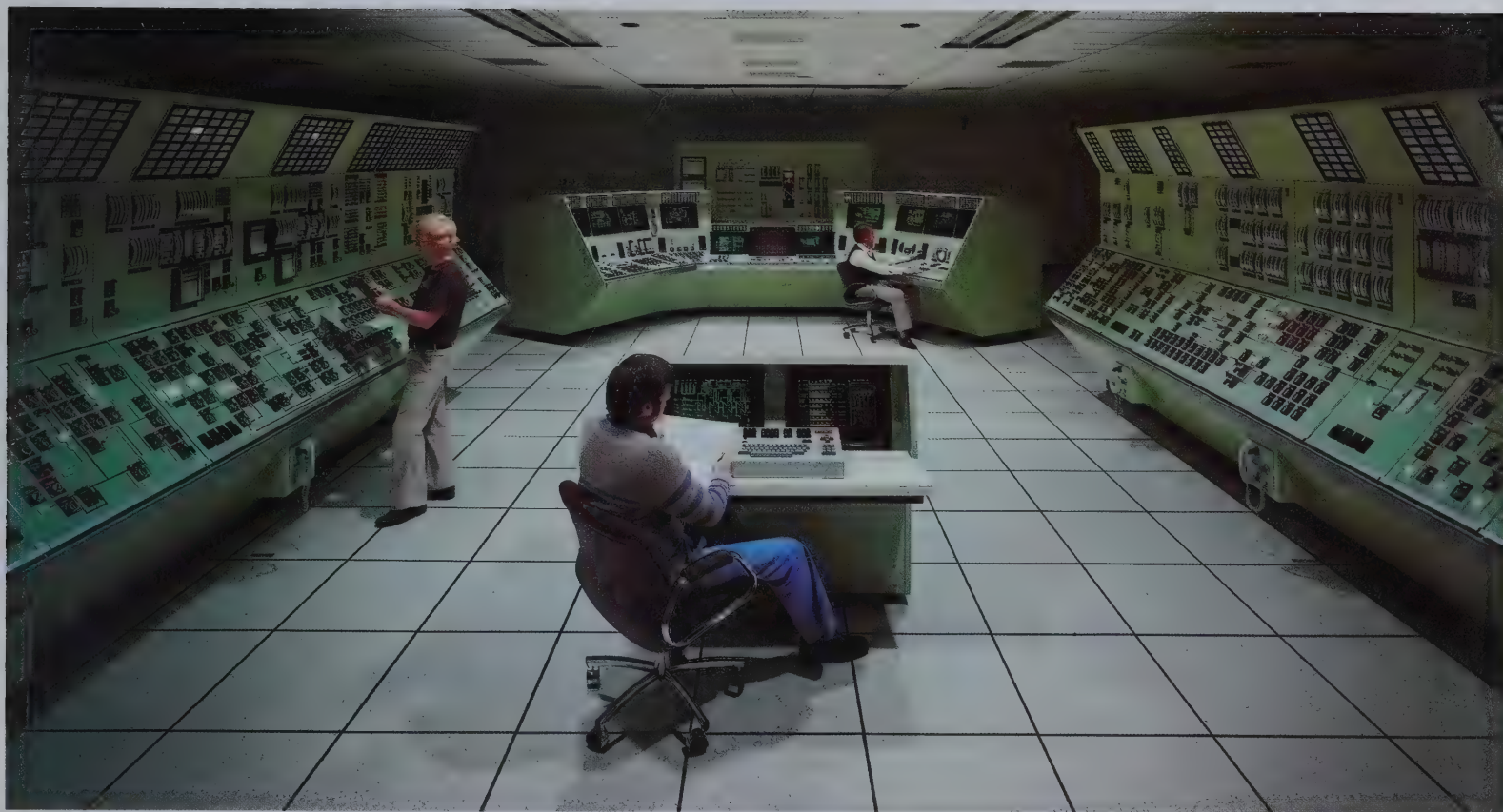
rich coal gas. These advanced fuel cells from GE offer the potential of efficiencies up to 50% – well above those realized in coal-fired plants.

Applied in a utility's generating system, these GE fuel cells would boost electrical generation both through their direct electrical output and through the hot gas they produce. Combined-cycle plants using steam and gas turbines could, with the aid of these fuel cells, use only one-third more coal to produce twice as much power as conventional coal-fired facilities with scrubbers.

General Electric's plans call for a prototype molten carbonate fuel cell system to be in operation in the mid-1980s, with a commercial offering to be ready before the turn of the century. The Company's fuel-cell development program is funded primarily by federal government research contracts.



Kingsize fuel cells in development at GE seek clean energy from coal by electrochemically converting coal-gas energy into electricity.



Supporting the nuclear option

U.S. nuclear electric generation daily delivers the power equivalent of five tankers, each filled with 250,000 barrels of imported oil. At \$30 per barrel, that's \$37.5 million per day the U.S. *doesn't* have to transfer out of the country for oil imports. Nuclear power meets some 12% of U.S. electrical needs and, in a number of areas, is supplying this electricity at costs well below those for fossil-fueled generation. Analyses by General Electric experts indicate that coal and nuclear power are today's only energy technologies capable of providing large-scale alternatives to imported oil from now until at least the year 2000.

For these reasons, General Electric management continues, as Chairman Reginald H. Jones told share owners at the 1980 Statutory Meeting, "to support the development of nuclear energy, with concurrent emphasis on multiple safety

provisions to protect the public."

The GE Chairman acknowledged that there have been problems in nuclear operations, as exemplified by Three Mile Island. However, he added, "the overall record of commercial nuclear operations in the United States has been very good. In our view, the problems that will arise from the country's *not* going ahead with nuclear power will have much more serious impact than those that will result from proceeding with the use of nuclear resources."

As for General Electric, he said, "we have 40-plus nuclear systems that we have yet to complete under contracts with utilities and customers."

Noting that "some of the economics have changed" since the Company devoted its summer 1977 issue of the General Electric *Investor* to the pros and cons of nuclear power, the Chairman

New GE training center for nuclear plant operators, near Tulsa, Okla., features two control rooms that simulate actual operating conditions.

suggested updating this information. The update will be included in a forthcoming issue of the *Investor*.

General Electric continues to invest heavily in advancing the technology of its boiling water reactors for electric power generation. Reflecting these investments, U.S. boiling water reactor plants in 1979, for the second straight year, led all domestic light-water reactor plants in average availability and capacity factor — key measures of overall performance for nuclear power plants.

Training of nuclear plant operators is also being emphasized. GE's Nuclear Energy Group recently inaugurated the second of its training centers for boiling water reactor operators — this new one adjacent to the future site of Public Service Co. of Oklahoma's Black Fox nuclear power plant. Trainees learn to respond to both routine and unexpected situations.

Making the most of hydro resources

While most large U.S. hydro sites have been put to use, the nation has some 50,000 small dam sites that represent an underutilized energy resource. If only 15% of these dams were developed to generate 3,000 kilowatts of power each, at least 6% of today's oil imports could be displaced.

Last year, General Electric formed an internal joint venture among its power systems and industrial businesses to focus specifically on domestic small hydroelectric plants with the potential of producing up to 15,000 kilowatts. GE is at work on a range of approaches: adding new hydro stations, rehabilitating abandoned sites, and uprating and modernizing present hydro systems.

This new push in small hydro technologies supplements GE's longstanding role in large hydro generation.

As an example, GE's affiliate, Canadian General Electric, is a major supplier and consortia member in one of the largest hydro projects of the era – Québec's La Grande Complex.

With a watershed area larger than the United Kingdom, La Grande is central to Québec's plan to double its locally produced sources of energy by 1990. The complex is also expected to produce enough hydro power to enable the province to sell its surplus to New York State and New England. The first of La Grande's many turbine-generator units, which went into operation last fall, was supplied by Canadian GE.

Capturing a major portion of the hydroelectric market worldwide is the objective of the Company's coordinated activity. Each phase of these programs should yield economic payoffs.



Leo Pagé

At Canada's La Grande 2 station near James Bay in Québec, the first of eight Canadian GE hydroelectric generators is lowered into place.

Toward a 'superconducting' generator

Many GE energy projects look toward fruition in the 1990s and beyond. One such farther-out development program at General Electric seeks to utilize extremely cold temperatures in electric power generation.

For years, scientists have known that the electrical conductivity of certain metals and alloys increases dramatically under ultra-cold conditions. The phenomenon is called "superconductivity."

Now General Electric is moving ahead on a 20-million-volt-ampere AC superconducting generator expected to produce as much electricity as a conventional generator twice its size and weight.

The largest such generator built to date, GE's experimental unit is expected to undergo final tests in the early 1980s. Chilled by liquid helium, the electric generator's rotor spins at -452°F to take

advantage of the loss of resistance that occurs near absolute zero.

Experience with the GE superconducting generator points the way to large-scale commercial units that can take their place in utility systems.

Expertise in superconductivity is enabling GE to contribute to other U.S. energy developments. GE engineers are, for example, developing a huge superconducting magnet for the government's program to test magnetohydrodynamics – the technique for shooting hot gases through a magnetic field at high speed to make electricity flow.

Contributing to another long-term energy development, GE is researching superconducting magnets for one of two principal methods to achieve controlled nuclear fusion – that of magnetic confinement of a plasma to cause nuclei to fuse on collision.



Near absolute zero, spinning rotor of experimental generator at GE Research and Development Center has almost no electrical resistance.

Solar for residential use

While warning against over-optimistic predictions as to how much of the U.S. energy burden solar energy can assume during the rest of this century, GE energy experts are intent on putting the sun's power to work, particularly in heating and hot water systems.

General Electric is currently testing its new Solartron® system shown at right. Solartron collectors use two cylinders of glass, one inside the other, to form a thermos-type bottle. Thermal energy is absorbed by the specially coated inner cylinder, and the sun's heat, once trapped, is removed by circulating air.

The General Electric hot-water heating system is competitive with electric heat in many parts of the U.S. and, since the last OPEC price increase, with oil in some areas.



Carl Bucks

First GE residential hot-water solar system supplements conventional methods.



Evacuated-tube solar technology developed by General Electric offers new efficiencies in capturing energy from even weak sunlight.

A total of 120 giant parabolic dish collectors will track the sun to collect heat for solar system designed to meet half the energy needs of Georgia textile plant.



Sandia Laboratories

Solar for industrial heat

In this country's first large-scale solar industrial application, GE has designed a "Total Energy System" to help provide electricity, steam, heat and hot water for a knitwear plant in Shenandoah, Ga.

When this system becomes operational in 1981, it is expected to produce more than 50% of the annual energy needs for this 25,000-square-foot factory. The project is sponsored by the U.S. Department of Energy (DOE).

GE is also at work on the next generation of these high-temperature solar collectors, an advanced dish-type design. This work is under contract to Jet Propulsion Laboratories.

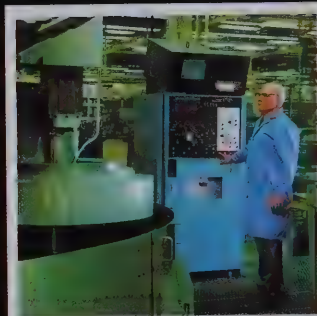
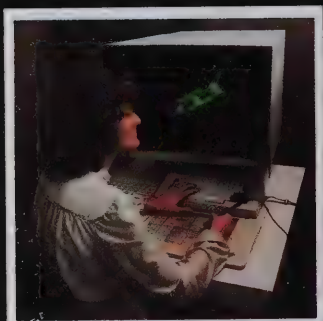
In another solar project, near Amarillo, Texas, GE is working with DOE and Southwestern Public Service to site a 60-megawatt central-receiver solar re-powering system to conserve oil in an existing electric power generation plant.

To check inflation, improve U.S. productivity

How can inflation be controlled? The primary step, GE Chairman Reginald H. Jones told share owners at the 1980 Statutory Meeting, is for the federal government to bring its budget into balance in fiscal 1981 by controlling "the inexorable growth of the public sector at the expense of the private sector." When government grows faster than the tax base that supports it, the Chairman said, "inflation is inevitable."

It's also essential, he believes, to reform present tax policies that favor consumption over production. These policies are seen as a fundamental reason why U.S. productivity gains have slowed to a standstill.

As shown here, GE contributes to the drive to improve productivity in two ways: by stepping up its own efficiencies; and by offering advanced production technologies to customers.



Stepping up GE's production efficiencies



Russell Ley

To boost General Electric's own productivity, the newest technologies are being intensively applied across the Company. Shown above: awkward lifting job at GE major appliance operation in Louisville, Ky., is taken over by a robot which removes refrigerator liner from press and deposits it on passing conveyor.

Left: advanced production techniques at GE include extensive use of interactive graphics in design and manufacture, as in work on Space Shuttle program at Valley Forge, Pa. Center: new x-ray generator is "engineered for producibility" to facilitate factory output. Near left: Aircraft Engine Group's Evendale plant puts GE's own production technologies to work by applying a computerized GE numerical control system to guide scores of machines in producing engine parts.

General Electric's leading authority on productivity, Robert B. Kurtz, Senior Vice President of Corporate Production and Operating Services, has traveled the world in his studies of the technologies of productivity. He and his staff are leading the drive to build GE's own productive strengths. Kurtz says:

"American productivity measurements are giving unhealthy readings – readings that don't compare well with those achieved by the U.S. in earlier years. After the good 3.2% annual increase the U.S. averaged between 1947 and 1967, productivity dropped to a 1.5% increase during the last decade and actually declined by 1.1% in 1979. Nor do we compare well with other nations – all of the industrialized countries have been boosting their productivity at rates well above those for the U.S. These are negative comparisons whose effects show up in the weakness of the dollar, the large U.S. international trade deficits, and, above all, in present high rates of U.S. inflation."

'Productivity' is an unpopular word with many in the U.S., he says. "They equate it with inhuman assembly-line speedups and with techniques whose only purpose is to drive workers harder." Supporting the idea that the essence of productivity improvement is to work "not harder but smarter," Kurtz cites four key elements as having great effect in making an organization more highly productive:

- Advanced technology – the single most important, accounting for a high percentage of productivity gains.
- Strong capital investment – Kurtz points out that the U.S. not only is laboring with the oldest machinery among Western industrialized nations, but is also maintaining the lowest level of nonresidential fixed investment in proportion to its gross national product.
- The effective utilization of skilled labor – Kurtz discounts the idea that U.S. workers have rejected the "work ethic"; a more serious problem in this decade, he says, is the diminishing size of the skilled labor pool for manufacturing, plus a scarcity of people knowledgeable in rapidly advancing technologies.
- Competent management – capable of taking responsibility for productivity improvement and creating a climate in which all functions of business – sales, engineering, manufacturing, finance and relations – pull together in strengthening work output.

GE achieved a satisfactory productivity increase in 1979, Kurtz is pleased to note. "Among GE employees, there is a high level of awareness that more efficient output is essential to keeping their operations competitive, and thus preserving their jobs. Management in 1979 backed up the productivity drive with a record \$1.26-billion expenditure for property, plant and equipment. Less than 10% of this amount went for bricks and mortar; a high proportion of the remainder was invested in more productive machinery.

Throughout the Company, the spread of advanced production technologies is being pressed. As illustrated on these pages, GE operations are accelerating their use of robotics, computer-aided interactive graphics in product design and manufacture, and the Company's own numerical control and drive systems expertise.

"One of the key lessons we learn from applying these leading-edge technologies," Kurtz says, "is that the more we automate, the higher the quality and reliability we realize in our products. It follows: when a robot takes over a process that humans find tedious or uncomfortable, the quality goes up.

Also, reductions in scrap and rework contribute to lower costs, making the whole operation more competitive."

Under Bob Kurtz, Corporate Production and Operating Services is organized to help GE operations adopt the new production technologies. Its Computer Management Operation, as an example, is leading a Company-wide effort toward optimum use of computer-guided production. Similarly, its Production Systems Applications Center is charged to find and assess the best production systems currently used in industry worldwide, and its Electronics Manufacturing Practices Center has been established to help apply advanced electronics manufacturing processes. "We expect the uptrend in productivity at General Electric not just to continue," Kurtz says, "but to strengthen."

Improving GE customers' productivity is a high-priority objective of the Company's Industrial Products and Components Sector. James P. Baker, Executive Vice President and Sector Executive, affirms that General Electric is launched on a new push to provide leadership in the development of automation products, systems and services:

"GE has tried since the 1950s to sell advanced automation systems — and has been successful in such vital areas as numerical controls for machine tools and large drive systems for steel mills, paper mills and other industrial processes. But in other areas of automation, we were ahead of our time. As long as energy was cheap and readily available, as long as inflation was low, much of industry couldn't be persuaded to buy the more costly automation and electronic technologies. Now, though, the time has come."

Why has this change come about? "First, because the country really needs automation now. The American manufacturing infrastructure is antiquated. It has to be replaced — not with new machines based on old technologies, but with new machines based on new technologies."

Secondly: "Low productivity, high inflation, and rising labor, material and energy costs have made the new technologies affordable. At the same time, the cost of electronics has been coming down by 20-to-50% a year. The intersection of soaring production costs and descending electronics costs represents an area of tremendous potential for us."

GE products to help customers boost productivity

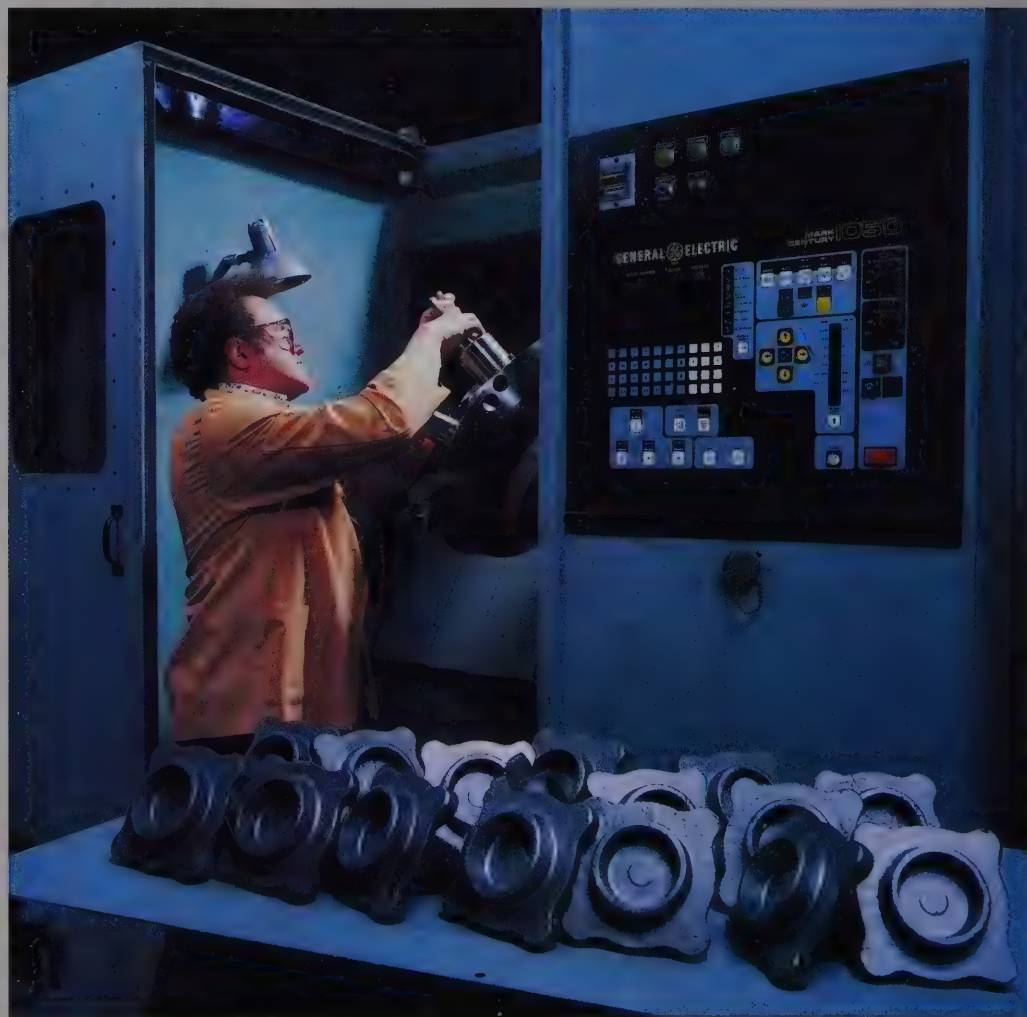
An affordable 'brain' to guide machine tools

Even though electronic "brains" such as GE's computer numerical controls (CNCs) have been available for years, some 70% of U.S. machine tools still lack these productivity-boosting control devices. Now, with business costs going up and electronics costs coming down, CNCs have become affordable to many new users and are invading new markets.

The example shown: CNC-equipped Lodge & Shipley machine tool for the Kelsey-Hayes Company plant in Jackson, Mich., using these controls in production of automotive parts. The firm's choice: General Electric's new 1050HL computer numerical controls, whose control station modules are so compact and light that they can be mounted directly on the machine tools they guide.

Taking instructions from magnetic tape, the General Electric 1050HL guides the Lodge & Shipley "bar chuckers" in selecting from 16 different cutting tools, indexing the tools as needed, and completing the entire machining process. The result: not only productivity improvements and lower costs but also sharp increases in quality, with the parts machined to much closer tolerances than were previously possible.

Stan Blanchard



Jim Baker believes that American industry is already under way on a massive refurbishing of the nation's productive machinery. "We don't think it's hyperbole to speak of a U.S. 'industrial renaissance' in the 1980s," he says. "Our Sector is making the investments in people, technology and manufacturing facilities that will enable General Electric to provide leadership for this coming upsurge in productivity."

To increase GE's role in automation, the Sector has organized a whole new Industrial Electronics Group under Donald K. Grierson, Senior Vice President and Group Executive. With GE bringing renewed emphasis to the development of new electronics components (see pages 16-19), Grierson sees his new Group's mission as that of applying these elements of "the new electronics" in an integrated family of products and systems to help industrial customers boost their productivity through automation.

The new Group is building on established strengths: "GE pioneered numerical controls that have brought great increases in the productivity of machine tools. Our drive systems are in use

throughout the world to automate such operations as steel mills, paper mills and offshore oil drilling rigs."

But over the long term, Grierson says, "we view these areas of excellence as simply the bases on which to build the new integrated electronics automation systems that will be at the heart of the more productive operations of the future. Over the whole spectrum of automation, from computerized order-entry processing and the application of interactive graphics in design and manufacture on through the use of computers to guide production machines, we intend to be involved."

As Grierson sees it, some 75% of U.S. industry has yet to feel the real impact of automation. "But there is a strong awareness developing – among managers, among workers and in government – that for American industry to stay competitive against highly automated foreign-based multinational companies will require an enhanced acceptance of – and greatly increased investments in – the new technologies. We're positioning our Group to help meet this need by continuing to be a leading developer of technology-driven components and systems for the world market."

Automation systems that quickly repay their costs

Systems engineers of GE's Industrial Electronics Systems Division apply their process knowledge in electric drive and automation systems that will, over a short time period, pay back their costs through the savings they bring to customers. Case in point: conversion of the major U.S. steel plant shown at right to a new GE computerized hot strip mill drive and control system.

As with GE systems installed in mills from Holland to Australia, Canada to Taiwan, this new installation will pay for itself by outperforming other systems in delivering steel with less deviation from thickness and width standards, resulting in a higher percentage of usable steel. The superior quality of the rolled steel produced by the GE system is worth millions of dollars per year in savings to the customer.

This new installation will benefit from another GE innovation: a furnace temperature control that, in preparing cold slabs for processing, avoids waste of heat and fuel by heating the slabs to precisely the right temperatures. Fuel economy is also increased by a GE fuel mixing function that blends gases of different calorific values, minimizing fuel costs without any compromise in production.



Wayne Lennbacker

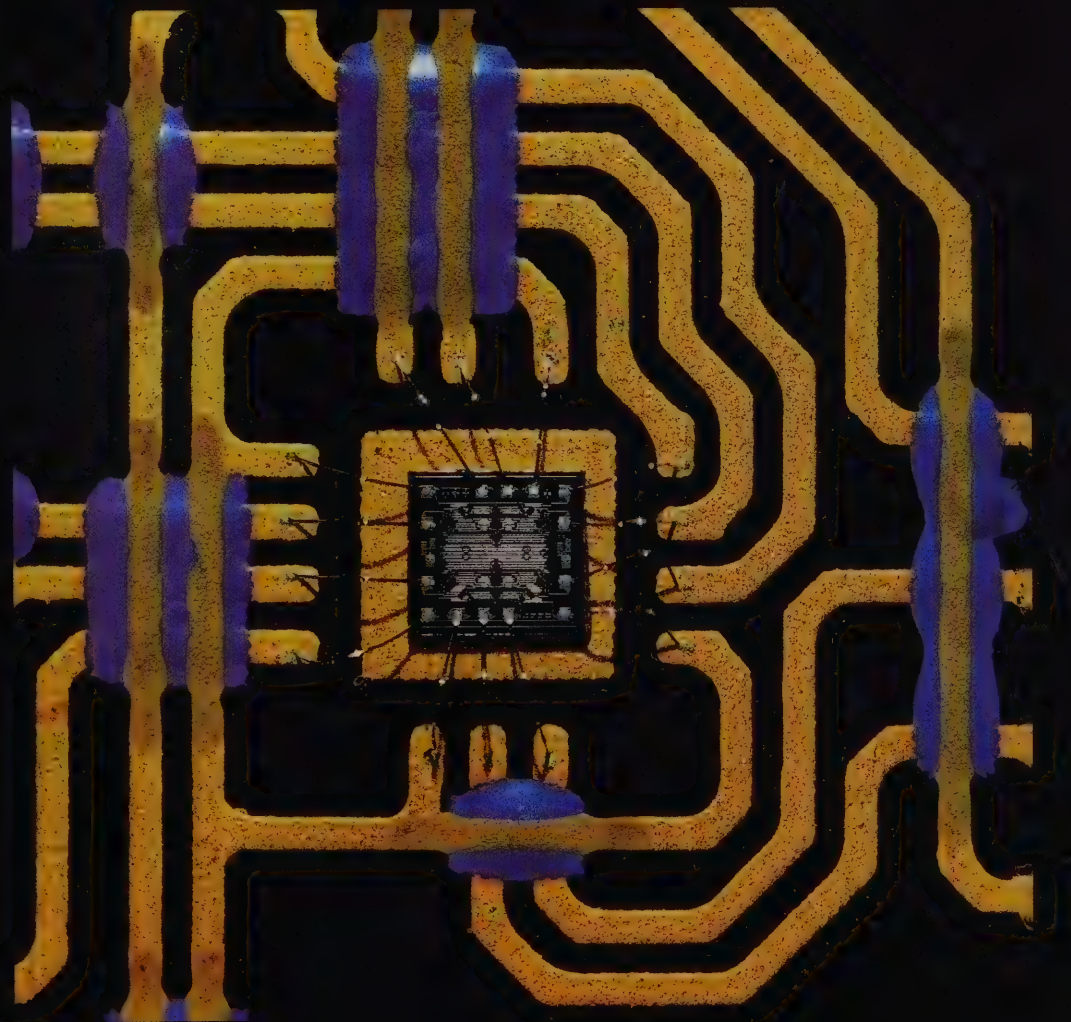
Applying 'the new electronics'

Progress in electronics has been so breathtaking over the last decade that it is commonly called a second industrial revolution. Symbolic of this "new electronics" is a tiny, fingernail-size micro-circuit chip packed with as much computer power as that which required an entire roomful of complex equipment in the 1950s.

But how can this burgeoning technology be put more abundantly to work to

benefit people? That's the question animating a diversity of General Electric research and development activities – R&D that is bringing greater usefulness in products as varied as clock radios and new ways to diagnose ills in the human body.

Under way at GE is a concerted effort to expand and enrich the Company's capabilities in this exciting submicroscopic technology.



GE integrated circuit – the "brain" of a liquid crystal clock – is imbedded in this thick-film hybrid module. Developed by GE's Solid State Applications Operation in Syracuse, N.Y., the module – shown here enlarged 25 times its actual size – helps reduce size and cost.

Computer on a chip



Stan Blanchard

How to manufacture advanced electronics circuits that reduce costs by crowding more functions on each tiny chip? It's a highly active area of exploration at the GE R&D Center.

The new breed of tiny computers that repose on microcircuit chips, rather than in large computer rooms, opens dramatic new opportunities to researchers and product designers. Such compactness and portability free the computer to go where needed, to be built into products and to supply vastly increased information processing.

General Electric applications of "computers on a chip" number more than 200, ranging from equipment that improves GE productivity and quality control to a host of new functions in products for customers.

The arithmetical and logical heart of the chip computer is the microprocessor. It can be programmed to absorb a stream of complex data, make split-second calculations and give intelligent orders. Yet, as the beneficiary of two decades of startling advances that are evident in its speed, circuit density and cost per function, today's microprocessor can cost less than \$2.00.

These advances reflect innovation on several developmental fronts:

- The speed of computer calculations, for example, has increased about a million times over the past 20 years.
- Circuit densities – measured in the number of components or functions per chip – have doubled annually since the 1960s, when the simplest circuit function required two transistors and five other parts. Today, 20,000 functions fit on a single chip.
- As a result of such reductions in circuit size, the cost per function has been driven down from ten dollars to under a penny.

Representative of GE products incorporating microprocessor technology is an ultrasound diagnostic imaging system that produces internal images of the human body by tracking the echoes from high-frequency sound waves. The system's microprocessors help produce better images with more diagnostic information than could otherwise be obtained.

Putting microprocessors to work for industry

Microprocessor technology is transforming both the products and the processes of industry.

General Electric examples show how the microprocessor's flexible, lightning-fast analytical powers are being applied to the benefit of GE customers and to the improvement of the Company's own productivity:

- Electronic vision is brought to industrial customers' manufacturing operations by a new GE Optomation® Instrument System developed by the GE Research and Development Center and the Optoelectronics Systems Operation. The system's "eye," as pictured at right, is a solid-state TV camera, or "electronic imager," that can perform functions as varied as rejecting parts damaged by tool breakage and detecting missing labels which could cause product returns.
- GE programmable lighting controls

use microprocessors to selectively program large buildings' lighting systems to come on or go off at predetermined times. Use in one New Jersey complex cut electricity usage by 33%.

- To ensure consistently high accuracy in its residential watt-hour meters, General Electric employs a minicomputer that compares each meter against a standard and then automatically controls a calibrating adjustment. This advanced electronic testing is 30% faster than manual methods.

- "Power Plus" halogen headlamps are setting a new industry standard for quality and performance, thanks to an automated lamp alignment system used by GE's Lighting Group. The microprocessor-based system optically aligns the bulb in its reflector for correct light output and minimum glare in only seconds. It also increases productivity.



Randy E. McKay

New electronic eye to inspect industrial processes is provided by this visual sensor portion of GE solid-state camera.

New options for consumers

General Electric is using "the new electronics" to bring good things to life: an array of consumer products that use microelectronics to offer attractive new features. Examples:

- For fast microwave cooking, GE offers the Spacemaker[®] microwave oven, equipped with solid-state controls. It features keyboard touch pads and a digital readout panel displaying such information as cooking time, food temperature and power level.

- An advanced microcomputer control thermostat designed for use with the new General Electric Executive II Weathertron[®] heat pump can be programmed to control almost every home temperature requirement — day or night, all year 'round. The new thermostat automatically makes desired changes in temperature, continuously reads out both indoor

and outdoor temperatures, and also shows the time of day.

- A new programmable infrared remote control system is available with General Electric TV receivers with 13- to 25-inch screens. The small lightweight remote unit can be used to turn the set on and off, adjust the volume and change quickly to the desired channel. Favorite stations can be programmed into a computer-type memory, eliminating unwanted channels.

- GE has brought microprocessors to dishwashing in a new dishwasher that offers consumers not only a variety of washing and drying options but also a built-in "diagnostic" feature. To facilitate energy-saving decisions, light-emitting diodes light up when wash, rinse and dry options are selected, showing relative energy usage compared with other

available cycles. Selection of cycles is done merely by touching appropriate control panels, and an electronic memory remembers the last setting so that it can be repeated easily. The diagnostic feature sizes up potential problems, such as a clogged drain, and warns the homemaker.

- General Electric's "Great Awakening" programmable clock radio provides a host of benefits: two wake-up systems that can be set for two different times and stations, with wake-to-music, alarm or delayed alarm; keyboard entry of time and radio frequencies desired; and digital readout of time and frequencies.

- Why have a door chime that plays only one tune? GE's new Orchestra Electronic Door Chime can play 60 different tunes for the front door plus one for the back door.



In addition to offering GE's Potscrubber[®] III reliability, new dishwasher with solid-state electronics has a "memory" that allows easy repetition of previous cycle settings.

General Electric TV line for 1981 includes this new 25-inch console with high-fidelity sound system. New GE video cassette recorder is shown on top of TV set.



James Dillinger

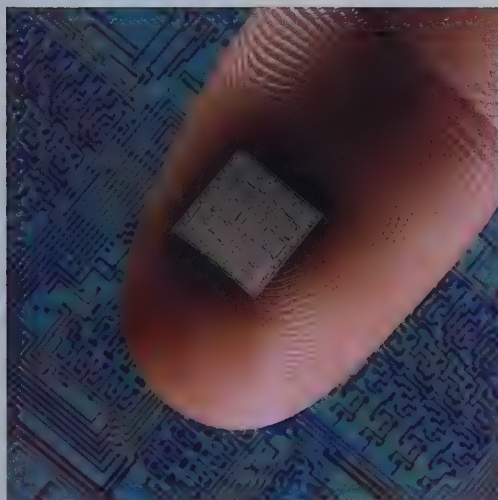
GE has brought electronic controls to countertop ovens. New Versatron[®] oven includes a control panel that tells such information as how much cooking time remains and what oven temperatures are, as well as audibly letting the user know when the cooking cycle has been completed.



Electronic options in new Spacemaker microwave oven include choice of ten power levels and six cooking cycles.



GE strengthens its emphasis on electronics development



Custom microcircuit chip for high-speed arithmetical processes, designed by GE's Electronics Laboratory, Syracuse, N.Y.

With GE operations busily applying the new electronics in their products and systems, General Electric is moving on a major expansion of its microelectronics research and development. The new program harnesses GE's existing electronics resources with a recently formed advanced microelectronic development and production operation.

In addition, as shown by the model above, the Company is beginning a \$50-million expansion of its Research and Development Center in Schenectady, N.Y., with more than half devoted to construction of one of U.S. industry's most modern electronics laboratories.

"This expansion highlights GE's determination to remain a major factor in the fast-moving electronics revolution sweeping across numerous fields," comments Dr. Roland W. Schmitt, Vice President – Corporate Research and Development.

The advanced microelectronics development and production operation will supply GE businesses with custom integrated circuits that will help provide the

unique GE products and systems of the future, according to Donald S. Beilman, Vice President – Aerospace Technology Development Operation.

A major part of this program is the establishment, later this year, of a new microelectronics center in the mid-Atlantic region. Explains Beilman: "It will perform design and manufacturing of integrated circuits, plus work with the R&D Center to implement new process technology. Training and education will also be a prime mission of the center."

In addition, the Company is launching a major effort to develop Very Large Scale Integrated (VLSI) circuits – chips containing some 100,000 transistors instead of the 10-20,000 packed on current microprocessor chips. A goal is to develop advanced processes to fabricate VLSI circuits with feature sizes that will ultimately be smaller than the wavelength of visible light.

"We're entering a major new era in General Electric," comments Beilman, "when microelectronics will be the cornerstone for innovation and leadership."

Developing new materials



Plastics, other 'engineered materials' reviewed by GE Directors



Stan Blanchard

For their first 1980 closeup of a GE production facility, the Board of Directors on April 25 toured a site that until a few years ago was an Indiana cornfield but is now the largest of the Company's four plastics facilities.

At the Mount Vernon, Ind., plant of GE's Plastics Operations, the Directors saw how the appropriations they approved in the past have been used to build for General Electric a highly profitable business as the leading supplier of high-performance plastics.

One focal point is shown on the opposite page: Mount Vernon's phenol plant, now nearing completion. The new facility represents a basic "backward integration" project, changing the plastics business from being a major purchaser of phenol to meeting its entire domestic needs.

The Board's visit was the occasion for a business review of all five of the businesses making up the Engineered Materials Group — the Metallurgical Division, the Plastics Operations, the Silicone Products Division, the Laminated and Insulating Materials Department and the Battery Department. These are businesses that Charles R. Carson, Senior Vice President and Group Executive, described as having the common characteristics of being high-technology businesses, worldwide in scope and distribution, and showing excellent growth in earnings and sales.

Glen H. Hiner, Vice President and General Manager of the Plastics Operations, said that the Mount Vernon plant, which covers 500 acres, is "the world's largest polycarbonate sheet and film manufacturing facility."

Sales of GE plastics to the automotive industry have been augmented, the Directors were told, by that industry's continuing strong emphasis on weight reduction, design flexibility and cost improvement — factors which lead to the use of GE plastics to replace heavier, costly metals. Detroit's output of 1980 autos includes one-piece instrument panels of Lexan®, Lexan taillights and General Electric halogen headlamps using Lexan to reduce weight. Valox® compounds are used in all U.S. auto high-

energy ignition systems and for the tail lamp sockets on some models.

GE plastics' special properties stimulate growth in many other markets, the Directors heard. Lexan's impact strength and heat resistance have led to its use in many consumer appliances and housewares. And Lexan sheet is being used where impact strength is necessary for safety or security reasons. Amtrak, for example, has chosen a specially coated Lexan sheet called Margard® to protect its train windows from breakage and vandalism.

In reports on other businesses in engineered materials, Carson informed the Directors that:

- the General Electric Metallurgical Division, producing tungsten carbide and diamond abrasive products for the drilling, metal removal and abrasive markets, "has developed into the international technology and quality leader," with offshore sales representing 40% of the Division's total.
- the Silicone Products Division is benefiting from a number of growth stimulators, including energy-conservation uses of its sealants, and product safety and liability concerns in transportation.
- the Laminated and Insulating Materials Department, producing a broad product spectrum, has found a strong new area of growth as the industry leader in printed circuit laminates.
- the Battery Department, by steadily broadening its applications and markets, has become "the world's market and technology leader in rechargeable batteries for other than automotive uses."

Carson summed up the Group as having five businesses, all of whose "prospects for growth continue to be excellent."

Report on the 1980 Statutory Meeting

and expect to acquit ourselves well in the turbulent period ahead. But it won't be easy for any industrial company."

Matters to be voted upon at the meeting were presented in the order in which they appeared in the 1980 Proxy Statement. The 20 Directors listed in the Proxy Statement were placed in nomination to serve as Directors for the ensuing year. No other nominations were made. Chairman Jones commented on the fact that "ours is one of the strongest, most independent and thoughtful Boards to be found in industry today" and reported that "in addition to many committee meetings this past year, the Board of Directors held ten meetings, with average attendance of 97%."

The appointment of Peat, Marwick, Mitchell & Co. as independent Certified Public Accountants for 1980 was proposed. Several questions were asked by share owner John Gilbert concerning auditing fees, the Company's internal auditing staff, and the relationship between external and internal auditors. Chairman Jones reported on the depth of the Company's internal auditing effort, noting that "there are 150 on the internal traveling audit staff, and beyond that another 200-to-250 resident auditors in the locations of our operations around the world." As for the audit by the independent Certified Public Accountants, Walter Hanson, chairman of Peat, Marwick, Mitchell & Co., expressed satisfaction with the cooperation his firm receives in working with the Company's internal audit staff.

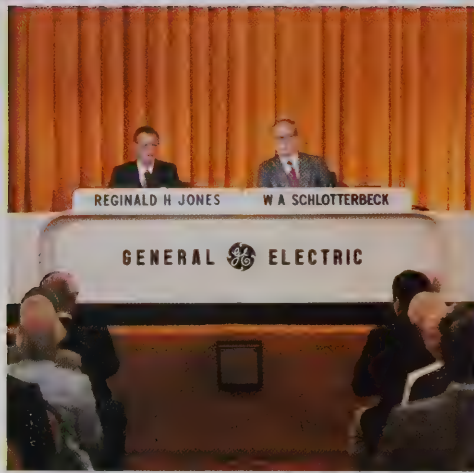
The first share owner proposal, submitted by Evelyn Y. Davis, of Washington, D.C., requested that share owners recommend that the "Corporation affirm its political non-partisanship." Chairman Jones said that no useful purpose would be served by this proposal, "which would prohibit practices which we either do not engage in, or which are already regulated by law."

The second share owner proposal, submitted by Lewis D. and John J. Gilbert, and Wilma Soss, all of New York City, and presented by John Gilbert,

asked for an amendment to General Electric's by-laws reinstating Annual Meetings "including the attendance of nominees for election to the General Electric Board." Chairman Jones responded by explaining the Company's practice of conducting two share owner meetings – the Statutory Meeting in April and the Information Meeting in October at which "our top officers make presentations on the various businesses in which the Company is engaged." He pointed out that the Board of Directors has chosen to attend the Information Meeting because the use of written questions – both those mailed in and those submitted at the meeting – provides a better understanding of share owner concerns than does attendance at the Statutory Meeting. He noted that eight members of the Board were, in fact, present at the 1980 Statutory Meeting.

Share owner proposal number three, also submitted by Lewis and John Gilbert, and Wilma Soss, and presented by John Gilbert, requested the Board to take the steps necessary for cumulative voting in the election of Directors. The Chairman responded by pointing out that under the present method of electing Directors, which has been in existence since the Company was founded, "each Director must receive a plurality of all the votes, and therefore each Director regards all the share owners as his or her constituents. On the other hand, cumulative voting permits the election of Directors who might represent special interests."

Share owner proposal number four was submitted by Andrew W. Duncan, of Hampton, Va., and recommended that the Company make no contributions to schools which restrict contacts with any intelligence agency of the United States. Chairman Jones stated that the proposal was one "that frankly, in some respects, we had a great deal of sympathy for," but he added that "the concern we had . . . was that it provided for blanket prohibitions, and we would prefer to support the



Presiding at General Electric's 1980 Statutory Meeting April 23 in Salt Lake City, Board Chairman Reginald H. Jones remarked on the fact that it was the first such meeting to take place in that city, and he extended "a special welcome to the many new share owners who acquired their shares as a result of the merger of Utah International with the General Electric Company."

More than 83 percent of the outstanding shares entitled to be voted were represented at the meeting through proxies returned to the Company.

In his opening remarks, the Chairman observed that "the country has started to slip into recession" and that "we in General Electric are starting to experience the impact of this slowdown in our short-cycle lines. But fortunately we have a wide diversity of business. Capital goods lines are holding up well, with good backlogs, and our services businesses tend to resist the dips in the economic cycle. We have our house in order



principle of academic freedom" and "look at situations on a case-by-case basis."

Share owner proposal number five, submitted by Louis A. Brusati, of Chicago, requested the Board of Directors to terminate the Stock Option Plan. The Chairman pointed out that the 1978 Stock Option Plan had been "overwhelmingly approved" by share owners that year, and that "if we didn't have stock option plans, we wouldn't be competitive in the compensation market."

Share owner proposal number six, submitted by Patricia T. Birnie, of Columbia, Md., requested the Board of Directors to halt all of the Company's nuclear business, except that related to medical use, and to place the major emphasis of nuclear research toward waste disposal and public safety. Opposing the proposal, the Chairman expressed General Electric's continuing commitment to nuclear power, as summarized on page 9.

Share owner proposal number seven, co-sponsored by a number of religious organizations, requested the Board to develop plans for phasing out the storage facility for spent nuclear fuel at Morris, Ill., not to sell the facility to the federal government, and to provide evacuation plans. Chairman Jones said that the interim storage of spent fuel is a "vital necessity in the United States" and that the Company believes it is "performing a service in this nation."

During the general question period, a share owner asked for information on Utah International, and Chairman Jones reported that "Utah has had a very outstanding first quarter this year" and has "met the expectations of the General Electric family very handsomely from the time that the merger was first discussed up to the present."

Several share owner proposals did not appear in the Proxy Statement or come to a vote because they were resolved in advance. Among them:

- a proposal submitted by Andrew Court, of Detroit, advocating adoption of a procedure to permit secret balloting by Directors. It was withdrawn when the Board established such a procedure.
- a proposal, submitted by a number of church groups, regarding the Company's operation of the U.S. Department of Energy's plant at Pinellas, Fla., which produces electronic components for the U.S. nuclear weapons program. It was withdrawn when management representatives met with the church groups to hear their views and recommendations in favor of nuclear disarmament, with special emphasis on social, economic and moral implications. Speakers for the church groups were Professor Seymour Melman, the Rev. William Sloane Coffin and Sister Rosalie Bertell. Among their recommendations were suggestions that the Company: take independent positions and make public statements on moral issues; prepare contingency plans for conversion of defense businesses to civilian production; boycott any further participation in the U.S. nuclear weapons program; and conduct research into ways to reverse the arms race.

Share owners may receive a summary report of the meeting with the church groups by writing to Investor Relations, GE, Fairfield, Conn. 06431.

The Company position continues to be that national defense and foreign policy decisions are properly made by the U.S. government and that it would be inappropriate to substitute corporate judgment.

Results of the balloting included the reelection of 20 incumbent Directors, and the approval, by 99.8% of the shares voted, of the appointment of Peat, Marwick, Mitchell & Co. as independent Certified Public Accountants for 1980. The seven share owner proposals were defeated.

- Proposal number one, relating to political non-partisanship, received a favorable vote of 2.1% of the shares voted.
- Proposal number two, relating to reinstatement of Annual Meetings, received a favorable vote of 3.8%.
- Proposal number three, relating to cumulative voting, received a favorable vote of 4.5%.
- Proposal number four, relating to grants to schools, received a favorable vote of 2.0%.
- Proposal number five, relating to termination of the Stock Option Plan, received a favorable vote of 2.2%.
- Proposal number six, relating to the nuclear business, received a favorable vote of 1.4%.
- Proposal number seven, relating to the Morris Operation, received a favorable vote of 3.2%.

The *Investor* is published by the General Electric Company to inform share owners and investors about the Company. Others may receive the *Investor* on request.

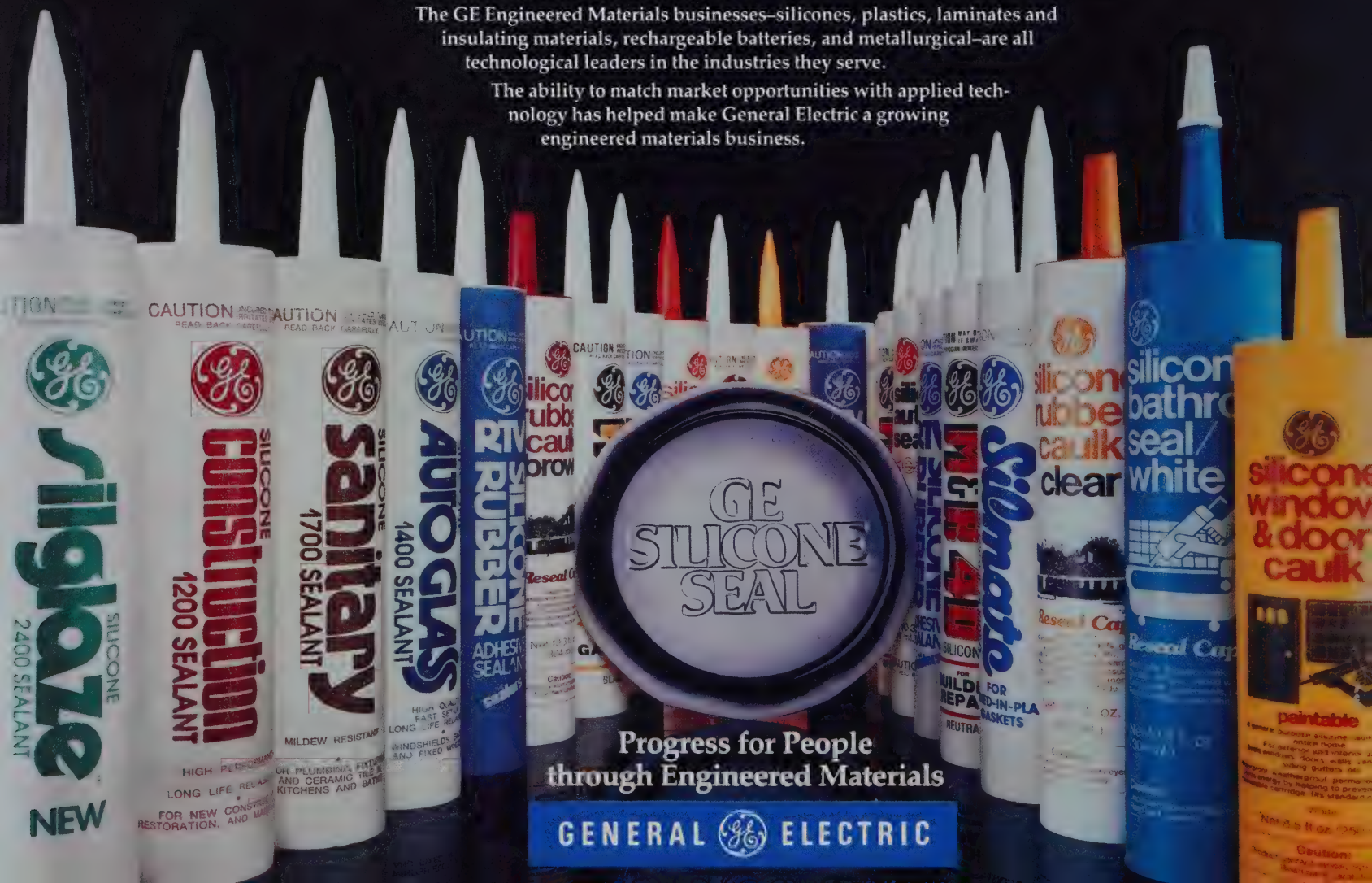
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GE Silicone high-performance sealants

The GE Silicone Seal is a symbol of technological leadership, quality and worldwide service. And, the diversity of silicone products helps meet the needs of users across the industrial, construction and consumer marketplace.

The GE Engineered Materials businesses—silicones, plastics, laminates and insulating materials, rechargeable batteries, and metallurgical—are all technological leaders in the industries they serve.

The ability to match market opportunities with applied technology has helped make General Electric a growing engineered materials business.



Financial highlights

(Dollar amounts in millions; per-share amounts in dollars)		1980	1979	Percent increase
For the year	Sales of products and services to customers	\$24,959	\$22,461	11%
	Other income	564	519	9
	Total revenues	25,523	22,980	11
	Net earnings applicable to common stock	1,514	1,409	7
At year end	Total capital invested	\$10,447	\$ 9,332	12%
	Share owners' equity	8,200	7,362	11
	Short- and long-term borrowings	2,093	1,818	15
Per share	Net earnings	\$ 6.65	\$ 6.20	7%
	Dividends declared	2.95	2.75	7
	Share owners' equity — year end	36.00	32.31	11
Measurements	Operating margin as a percentage of sales	9.0%	9.5%	
	Effective income tax rate	38.4	39.9	
	Earnings as a percentage of sales	6.1	6.3	
	Percent earned on average total capital invested	17.3	17.6	
	Percent earned on average share owners' equity	19.5	20.2	
	Borrowings as a percentage of total capital invested	20.0	19.5	

Comments from the Chairman and the Chairman-elect

"Innovation and self-renewal: these are themes that characterize General Electric as we enter a new era."



The joint signing of these comments signals the approaching change of executive leadership at General Electric. On the retirement of Reginald H. Jones (right) on April 1, 1981, John F. Welch, Jr., will become Chairman and Chief Executive Officer of your Company. He will be the eighth person to hold that office since the founding of GE in the nineteenth century.

John F. Burlingame (middle left) and Edward E. Hood, Jr., continue as Vice Chairmen and Executive Officers with expanded responsibilities for realigned staff and operations.



General Electric's diversity and financial strengths enabled it to turn in a solid performance in 1980 despite adverse economic conditions in the U.S. and many foreign markets. Sales of \$24.96 billion represented an 11% increase over 1979. Earnings of \$1.5 billion, or \$6.65 per share, were 7% above 1979 levels.

The significance of these sales and earnings is not merely that they set new levels in a year when profits for industry generally declined. More importantly, they were achieved in a year when your Company sharply increased investments in new plant and equipment, new technology, new product development and new business ventures.

U.S. business today finds itself challenged by aggressive overseas competitors. National productivity has been declining and, in industry after industry, product leadership is moving to other nations. Companies that refuse to renew themselves, that fail to cast off the old and embrace new technologies, could well find themselves in serious decline in the 1980s.

We are determined that this shall not happen to General Electric.

Self-renewal. Your Company is engaged in a process of internal change that will transform the ways we design, manufacture and distribute our products and services in the 1980s. We are encouraging our people to probe constantly for new markets, new techniques and new business opportunities.

This stress on innovation has been gathering momentum and is perhaps best illustrated by the change in our sources of earnings, as emphasized in last year's Annual Report. As the 1970s began, 80% of your Company's earnings came from its traditional businesses in the manufacture of electrical and electronic equipment. These businesses remain healthy and growing, although they now provide less than half of our earnings. The majority of our earnings are presently derived from growth businesses in man-made materials, natural resources, aerospace and transportation equipment, services and other new lines of opportunity. And 42% of our earnings now come from international activities, compared with only 16% a decade ago.

The status of our current businesses is detailed in the pages of this Annual Report, but to give our share owners a "feel" for the present mood of self-renewal at General Electric, let us

comment on the Company's response to several fundamental challenges of the 1980s.

Electronics. There is wide agreement that the new electronics will be the dominant technological force of the 1980s. And so we have been engaged in a Companywide effort to apply the new microelectronics and the related information-based technologies to every possible product, service and process in GE.

The corporate commitment is embodied in hundred-million-dollar investments in the construction and acquisition of new electronics laboratories and manufacturing centers. We have established an Industrial Electronics Group and an Information and Communications Systems Group. GE training programs are under way to bring the thinking of our managers and technical people up to the state of the art in the new electronics, and we are vigorously recruiting more electronic engineers.

The proposed purchase of Calma Company, a leading producer of interactive graphics equipment, and the acquisition of Intersil, a maker of advanced microelectronic chips, are consistent with our intention to be at the leading edge of new technology.

Your management is determined to be a leader in the electronics revolution.

Productivity. After a decade of slow productivity growth, U.S. industry is poised for a major surge of investment in new equipment—the so-called “re-industrialization of America.” For GE the process has already begun.

Your Company has invested almost \$6 billion over the past five years, including nearly \$2 billion in 1980, to upgrade its productive capabilities. Interactive graphics for computer-assisted design, manufacture and test; robotics; programmable electronic controls; energy-efficient drives: these are among the advanced technologies that are transforming our factories into some of the most productive, quality-controlled operations in the world.

And what we develop for our own factories we will then sell to our industrial customers—a productivity-improvement market that is growing well over 20% per annum. With our own factories as a worldwide laboratory for the development of advanced manufacturing systems, and a customer base that urgently feels the need for productivity breakthroughs, GE expects to be a leader in equipping the automated factories of the future.

Energy. From its beginnings, General Electric has been a producer of energy-conversion equipment for electric utilities. But that is now just a modest proportion of our total involvement in the rapidly growing energy field.

Through Utah International's coal mines and Ladd Petroleum's oil and gas wells, as well as our nuclear fuel operations, we are suppliers of basic fuel. Our equipment powers machinery in the mines and drilling fields, our diesel-electric locomotives haul the coal, and our gas turbines power the pipelines.

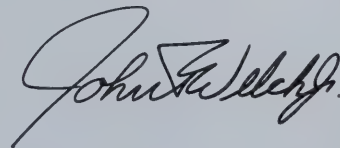
And as the world strives to reduce its excessive dependence on one energy source—petroleum—GE's research activities seek commercial breakthroughs in significant new energy technologies such as systems to convert coal into clean synthetic fuel gas.

Another profitable facet of the energy market is the redesign of our products to conserve energy—from energy-efficient lamps, appliances and motors to fuel-saving jet engines.

Innovation. Perhaps your Company's commitment to broad-based innovation is best expressed by its rising investment in research and development. Since 1977, we have increased GE-funded R & D expenditures 85% to \$760 million. Total R & D expenditures, with external funding, reached \$1.6 billion in 1980.

General Electric is not merely in the electrical business, or any other particular business. This Company has moved forward to a new dimension of industrial capability that investors are only beginning to recognize. *We are in the business of creating businesses* to anticipate and serve the needs of a changing world.

This is, at least in scale, something rare. And it can make a constructive contribution to a world that is striving desperately for accelerated economic and social development.



John F. Welch, Jr.
Chairman-elect



Reginald H. Jones, Chairman
and Chief Executive Officer

February 20, 1981



Paul W. Van Orden
Executive Vice President and
Sector Executive—Consumer
Products and Services Sector

(In millions)	1980	1979	1978	1977	1976
Revenues*	\$5,714	\$5,448	\$4,865	\$4,215	\$3,510
Net earnings*	407	401	377	323	261
*Includes net earnings of General Electric Credit Corporation	115	90	77	67	57

Consumer Products and Services Sector revenues and earnings were slightly ahead of 1979, despite operating in an environment characterized by a sharp decline in appliance shipments and extremely volatile interest rates. Earnings were led by the strong performance of General Electric Credit Corporation (GECC), the Company's wholly owned nonconsolidated finance affiliate. Sector results reflect effective management actions to control costs, strong consumer acceptance of new products, and an improved balance between product and services businesses.

While sustaining earnings, the Sector continued to fund programs for the development of new products and services to meet consumers' changing lifestyles and the evolving needs of business customers. These programs, designed for future growth, are maintaining a strong emphasis on innovation, quality and productivity improvement.

GECC earnings grew 28% in 1980. As for the product businesses, sustained cost improvement actions and continued emphasis on new and improved products enabled them to outperform the industry and limit their earnings drop to 6%.

In 1980, Sector operations accounted for 22% of GE revenues and 27% of earnings.

General Electric Credit Corporation

earned \$115 million in 1980, up from \$90 million in 1979, and provided 28% of Sector earnings. Growth in earning assets of more than \$1.0 billion as well as improved operating efficiencies contributed to the excellent results (see page 40 for condensed GECC financial statements).

With total assets of \$9.3 billion, GECC ranks as the largest U.S. diversified financial com-

pany. It is the largest nonmanufacturing company in equipment financing and leasing, handling leasing activities ranging from computers to supertankers. Leasing is GECC's fastest-growing business. It pioneered leveraged leasing and is a world leader in that business, with over \$5.1 billion of industrial- and transportation-equipment leveraged leases in its portfolio.

GECC also is a leading lender in home products retailing, home equity financing and a wide array of commercial and industrial equipment industries.

Major appliance businesses, serving retail and builder markets with a complete line of GE® and Hotpoint® kitchen and laundry equipment, had lower earnings in 1980 on about the same level of sales as in 1979. The recession, credit restrictions and a weakness in housing severely affected the U.S. major appliance industry, causing 11% lower unit shipments, excluding microwave ovens. General Electric moderated the earnings impact with new productivity programs and strong sales of innovative products. These improvements position these businesses to remain a major contributor to Sector earnings as the Company continues to respond to consumers' changing wants and needs.

Industry unit sales of the microwave oven were up 32% for the year. In this growing business, GE has captured a leadership position with product improvements and customer acceptance of the Spacemaker® unit.

The positive momentum of the dishwasher line was enhanced by strong customer acceptance of the top-of-the-line Model 1200.

To serve customers better, GE placed increased emphasis on product service. In-



Time- and energy-saving products such as those shown above are featured in the Company's ongoing "We Bring Good Things To Life" consumer advertising campaign—which is designed to help make GE an even more visible and valued brand.

home service for more than 100 million GE and Hotpoint major appliances is provided through a network of 135 factory service locations and over 10,000 franchised servicers.

Air conditioning products, affected by the recession, reported lower earnings and sales. Although late-season sales improved sharply in response to hot weather, gains were not sufficient to offset the impact of recession-driven decline in demand and sustained high inflation. However, the market for air conditioning products is expected to improve during the 1980s, led by electric heat pumps which are today's most efficient method of electric heating and cooling.

In 1980, GE introduced a new Executive II

two-speed-compressor Weathertron® heat pump with a microprocessor control for automatic adjustments in response to ambient temperature changes.

Lighting operations had slightly lower earnings on somewhat higher sales. Strong performance in most lines did not completely offset substantial declines in markets for photo-flash lamps and lamps for automotive uses.

The continuing introduction of innovative and energy-efficient products found excellent reception in both consumer and industrial markets.

GE reinforced its "convert-to-convert" theme in 1980, emphasizing the energy savings realized by using Lucalox® lighting

New Multi-Vapor® II lamps, illuminating this recently opened department store in Fairfax, Va., deliver lighting at 35% lower energy costs because of their improved efficiency. The new metal halide lamps combine high light output per watt with warm incandescent-like color.



Purchase and renovation of this 24-story high-rise building in Tulsa, Okla., was financed by GECC's real estate financial services operations. The former apartment house has been converted into a 204-unit condominium.

systems. New products included Remote Energy Management (REM®) control for industrial Lucalox® luminaires which uses radio signals to command the luminaires to change wattage settings.

The electronic Halarc® metal halide lamp is targeted for introduction in 1981. It is the first of a family of long-life lamps that use about one-third as much electricity to generate the same amount of light as the incandescent bulbs they replace.

Additionally, several operations continue to grow outside the lighting industry. General Electric is a major supplier of tungsten and tungsten-carbide powder used in manufacturing cutting tools for metal fabrication, oil drilling and mining. And the Company has become

a leading supplier of quartz tubing, rods, boules and crucibles for the semiconductor industry.

Housewares and audio operations increased sales and maintained earnings in a highly competitive industry that experienced significant cost pressures in 1980. Capitalizing on its strong brand-name recognition, GE introduced new products that offer quality with value, including the powerful Food Processor Supreme with a side discharge chute for continuous slicing and shredding, and programmable AM/FM clock radios and ultra-slim portable cassette recorders featuring advanced electronics at affordable prices.

Television receiver operations reported increased sales in 1980 with earnings about the same as the previous year.

Sales of television sets manufactured by General Electric increased for the fifth year in a row. The Widescreen 3000 Home Television Theater, the Company's new projection TV set, played a major role in the surge of interest in projection TV. Sales of video cassette recorders also are on the upswing. In 1980, GE formed joint ventures with three companies to support the U.S. introduction of the VHD video disc system. The home video disc system is expected to be the next major product innovation in consumer electronics.

Broadcasting and cablevision businesses in 1980 set new records in sales and earnings. General Electric operates three VHF television stations and three AM and five FM radio stations. In cablevision, where GE operates 13 systems encompassing 66 franchised communities, customers were added at a 22% annual rate in 1980. GE ended the year with about 260,000 basic-service and 122,000 premium-service customers.

The outlook: With a gradual economic upturn forecast for 1981, and favorable demographics in the '80s, the Sector's product businesses look forward to healthy markets and sustained growth resulting from product innovation and emphasis on quality.

The Sector also sees good opportunities to expand its business participation throughout the decade in the rapidly growing finance and services markets.



James A. Baker
Executive Vice President and
Sector Executive—Industrial
Products and Components
Sector

(In millions)	1980	1979	1978	1977	1976
Revenues	\$5,157	\$4,803	\$4,124	\$3,698	\$3,270
Net earnings	315	272	223	191	160

Industrial Products and Components Sector boosted its earnings 16% during 1980 on revenues 7% ahead of 1979. The improved earnings were paced by operations serving transportation, contractor equipment and industrial motor markets, with most major Sector businesses contributing to the growth. Sector operations include motors, industrial electronics, contractor equipment, transportation systems, apparatus service, and supply services for electrical and related products.

During the 1980s, industry's need for new products and services to improve productivity and increase energy supplies will provide favorable opportunities in markets to which the Sector expects to bring continued product leadership and innovation. The industrial electronics field should be a particularly important area for Sector growth.

In 1980, Industrial Products and Components Sector accounted for 19% of total GE revenues and 21% of the year's earnings.

Contractor equipment operations experienced an excellent year, with increased sales and earnings. Strength in commercial construction markets offset the depressed levels of residential construction. Industrial plant and equipment spending remained strong, and international operations showed improvement over the previous year's level.

General Electric manufactures a wide variety of products associated with electrical control, distribution and circuit protection. These GE product lines include low-voltage circuit breakers, motor controls, wiring devices, programmable lighting control, and wire and cable. New products introduced by the Company in 1980 included a line of low-voltage switchgear that provides increased operator safety and improved reliability.

Transportation systems businesses continued to grow as quality suppliers of diesel-electric locomotives, motorized wheels for off-highway vehicles and transit propulsion equipment as well as drilling drives. Earnings improved considerably on slightly higher sales.

International locomotive orders increased in 1980, and the largest contract for locomotives in the Company's history was negotiated with National Railways of Mexico. The ten-year agreement calls for delivery of 60 to 100 locomotives or their component sets each year.

The locomotive line was expanded to include the new B36-7 model which features further improvements in fuel efficiency and pulling power. This 3,600-hp unit uses GE's highly reliable and advanced railroad-type diesel engine. Although the U.S. locomotive market was relatively weak in 1980, over the next few years it is forecast to strengthen. Railroad haulage is expected to increase as a result of both the fuel efficiency advantage of railroads over trucks and increased coal transport.

High levels of mining produced brisk demand for General Electric motorized wheel drives used on haulage trucks. Also, extensive oil-well drilling in 1980 stimulated a sharp increase in demand for the Company's drilling drive systems.

The motor businesses of GE produce a large assortment of motors for residential and industrial applications. In 1980, they had somewhat higher earnings on slightly lower sales. The industrial motor market was strong, reflecting industry's emphasis on productivity and customers' needs for energy-saving motors. The market for high-efficiency industrial motors is growing at more than 60% per year. The component motor market was weak as a result of depressed appliance markets.



Creating new integrated circuits is among the exciting technology programs of Intersil, Inc., a newly acquired affiliate of General Electric that is also a leading producer of microelectronic products.

Because of increased energy exploration worldwide, sales of motors and generators for mining and oil drilling were high. Also, exports of smaller component motors grew dramatically during the year.

Industrial electronics operations had higher sales although earnings were down, reflecting, in part, the impact of new investment programs oriented toward products for factory automation.

General Electric continued its role as a leading supplier of electrical and electronic components and systems to power industry worldwide. New technological developments included a high-efficiency, static, adjustable-speed drive system incorporating the latest

microprocessor-based digital control. The system prolongs motor life, and can reduce by up to one-half the amount of power normally consumed by the application of a constant-speed motor.

Among other new GE products offered was the Series Six family of programmable controls, designed to increase productivity and lower costs.

As part of GE's new thrusts in high technology, two electronics-related acquisitions recently were announced. In February 1981, General Electric acquired Intersil, Inc., a leading supplier of advanced integrated circuits and data acquisition and memory products, for \$235 million. Intersil will continue as a major supplier to the merchant market as well as a

source of integrated circuits for GE's diversified product lines. Also, in December 1980, the Company agreed to acquire Calma Company, a subsidiary of United Telecommunications Inc., for up to \$170 million. Calma is a supplier of interactive graphic systems, which include technologies used for computer-aided design and manufacturing.

In addition, a \$30 million investment in new electronics capability at Charlottesville, Va., was approved in 1980. Construction will include manufacturing space for industrial controls and a new laboratory to help bolster GE's role in the industrial electronics revolution.

Service and distribution businesses conducted by the Sector include:

- General Electric Supply Company, which reported improved sales for the year. This national network of supply centers provides products of General Electric and other companies to customers in the contractor, industrial, commercial and utility markets.
- Apparatus service shops, sales of which were up, although earnings were lower.

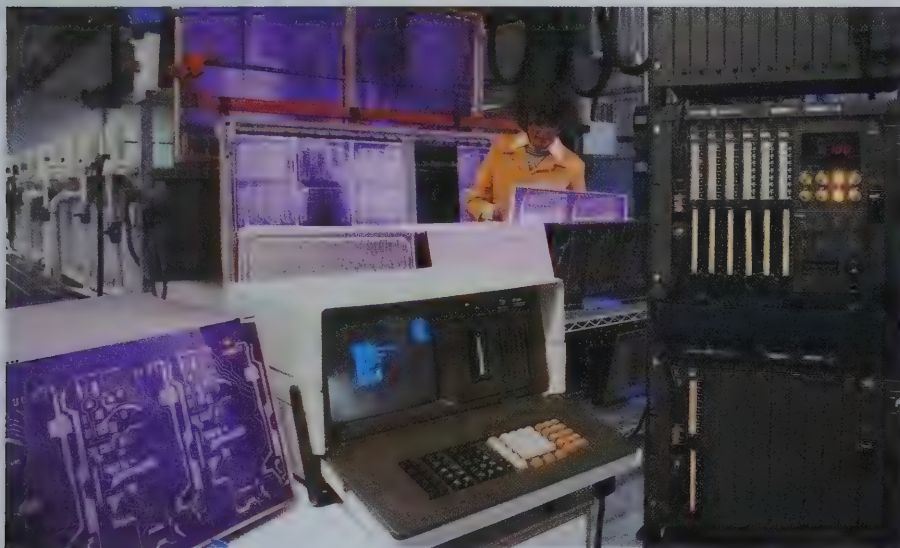
With continued emphasis on expenditures aimed at longer-term growth as well as broadened service offerings, the service shop network was expanded to 197 locations worldwide. The shops provide inspection, maintenance, repair and rebuilding services for industrial equipment manufactured by General Electric and other companies. Forty repair facilities in this international network are concentrating on the fast-growth electronics service market.

The outlook in the 1980s for markets served by Industrial Products and Components Sector is favorable, based on the nation's need for production- and energy-related products.

The Sector has strengthened its competitive position by developing leading-edge products and services, and continues to expand its marketing presence abroad. While some operations may be affected by lingering economic uncertainties, most anticipate improved market conditions. Residential construction markets are forecast to improve, although commercial and industrial construction markets are expected to decline in 1981.

- The U.S. locomotive market is forecast to improve in the early 1980s. International markets, primarily in developing countries with transportation infrastructure needs, should remain strong.
- Continued high levels of mining and oil drilling are expected to sustain demand for motorized wheels, drives and motors.
- Emphasis on energy conservation and productivity should stimulate demand for GE's electronic components and systems.
- Industry's quest for more efficient machine tools and sophisticated production equipment is expected to produce significant GE sales opportunities.
- Growth in worldwide maintenance and repair markets served by General Electric's apparatus service shops is predicted to continue throughout the 1980s.

Increased productivity is the aim of new GE Series Six programmable controls. Equipped with microprocessors, the units guide complex industrial operations such as material handling and process control.



Locomotive repair and overhaul at the Company's Hornell, N.Y., service shop are part of the offerings of the GE worldwide network of apparatus service shops and affiliates in 19 countries.



Herman R. Hill
Executive Vice President and
Sector Executive—
Power Systems Sector

(In millions)	1980	1979	1978	1977	1976
Revenues	\$4,023	\$3,564	\$3,486	\$3,218	\$2,998
Net earnings	141	114	93	75	61

General Electric's Power Systems Sector, a world leader in serving markets for electrical generation and power delivery apparatus, increased its 1980 earnings by 24% on a 13% rise in revenues. Good earnings in steam turbine-generator operations and the expanding installation and service engineering business more than offset declines in gas turbine and power delivery operations.

The improved Sector results reflected continued emphasis on productivity gains, increased penetration of international markets, and expansion of equipment maintenance services. Selling price increases only partially offset inflation-driven cost increases.

The Sector's strategy for earnings growth is based on strengthening its leadership in a broad range of energy technologies, and diversifying into new energy technologies such as those related to synthetic fuels and advanced cogeneration.

Power Systems businesses contributed 15% of total GE revenues in 1980 and 9% of net earnings. Presently, high reserve margins of utilities and uncertain national energy policies continue to slow demand for power generation and delivery equipment.

The backlog of unfilled orders was \$11.0 billion at the end of 1980, compared with \$12.1 billion at the previous year end. The decrease from the 1979 year-end backlog was attributable primarily to elimination of orders for steam turbine-generators no longer expected to go into production, and also to Sector sales that exceeded new orders.

Steam turbine-generator earnings were well up from 1979 on approximately the same level of sales.

As expected, the sluggish demand for large steam turbine-generators caused the

level of new orders for these larger units to be lower than in 1979. Notable progress, though, was made in winning domestic industrial cogeneration orders for smaller-size steam turbine-generators.

The orders backlog for steam turbine-generators was \$2.7 billion at year-end 1980, of which \$1.3 billion is scheduled for shipment after 1985. The comparable backlog for 1979 was \$3.9 billion, of which \$2.0 billion was scheduled for shipment after 1984.

Mechanical drive turbines showed higher earnings on higher sales compared to 1979. General Electric foresees major long-term growth for this business in international applications such as petrochemical plants and emerging energy technologies involving coal liquefaction and synthetic fuels.

The Sector's marine propulsion business consisted primarily of U.S. Navy projects.

Gas turbine sales were higher but earnings were down, due principally to tighter margins caused by stiff foreign competition. GE gas turbines continued to maintain their world leadership, being used for electric utility peaking and mid-range power, and for industrial applications such as natural-gas pipeline pumping and powering offshore oil platforms.

The Company's highly efficient STAG[®] (steam and gas) combined-cycle turbine plants continued to be attractive offerings, particularly for foreign customers.

In 1980, the Sector delivered the first of a line of large gas turbines to serve the international electric utility market. This advanced 105-mw heavy-duty gas turbine, the largest such unit ever built by the Company, is now part of a combined-cycle power system operating near Kirchlingern, West Germany.

General Electric announced in 1980 that it



Export orders of GE steam turbine-generators have included two 550-mw units for Spain's Castellón power plant, a coal-fired installation located on the eastern Mediterranean coast.

is participating in a \$300 million coal gasification/combined-cycle demonstration plant. Planned for completion in 1983, this 100-mw facility is designed to convert coal to synthetic gas, then clean and burn it to provide economical electricity. GE also is supplying the gas and steam turbine-generators for this electric power plant.

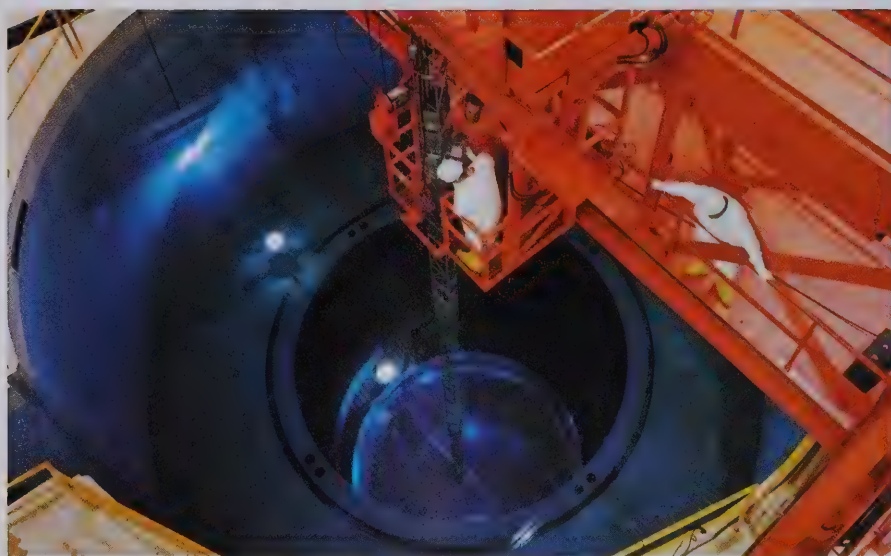
Nuclear operations continued to incur a modest loss. As stated in previous Annual Reports, GE is making substantial expenditures on engineering and development in support of nuclear projects in the backlog. These expenditures, added to the effects of deferments of shipments and cancellations of nuclear orders, are expected to result in

continuing losses for this business.

Nevertheless, the nuclear fuel fabrication and services segments of the business are profitable, and the nuclear fuel and services needs of U.S. and foreign utilities offer ongoing opportunities. Additional large orders for fuel were received in 1980, and Power Systems' installation and service engineering business, in cooperation with the nuclear business, has expanded GE's nuclear services offerings.

The backlog of orders, including nuclear reactors, fuel assemblies and plant services, totaled \$5.5 billion at year-end 1980, of which \$1.9 billion is scheduled for shipment after 1985. The comparable backlog for 1979 was \$5.3 billion, of which \$2.5 billion was

Synthetic-fuels development at GE includes work on an ultra-high-temperature, water-cooled gas turbine which would be installed in advanced synfuels plants. Plans call for this highly efficient "Super-turbine" to be ready by the late 1980s.



To provide GE nuclear field engineers and utility personnel with hands-on training in various aspects of reactor refueling and maintenance, GE in 1980 built a reactor services training center in San Jose, Calif.

scheduled for shipment after 1984. Some fuel orders include reprocessing, plutonium fabrication and waste disposal services. In view of current U.S. government policies, it is highly uncertain whether such services can be provided.

In the U.S., cancellations of nuclear plants have substantially outnumbered new orders during the last six years. General Electric's management believes that resumption of nuclear orders will depend not only on renewed demand for electric generating equipment, but also on government action. Such action is needed to reform the nuclear licensing process and resolve existing uncertainties regarding such issues as radioactive waste storage as well as nuclear export policy.

Installation and service engineering businesses reported record orders, sales and earnings in 1980. This continued growth was achieved by expanded offerings of field engineering and project management services in major domestic and international markets.

Highlights during 1980 included increased participation in domestic nuclear and fossil plant installations as well as in maintenance and refueling; success in developing a market to upgrade older electrical and electronic equipment; and penetration of offshore equipment-maintenance opportunities.

Power delivery businesses, producing transformers, power circuit breakers, switchgear and meters, continued to be depressed, with inadequate recovery of cost increases resulting in lower earnings. To overcome problems of utility overcapacity, a slowdown in residential construction, and inflationary costs which are not completely recoverable through price increases, these GE operations are working to improve their margins by stressing productivity programs to reduce costs and improve efficiency.

Utility load management, an attractive means of energy conservation, represents a growth opportunity, and the Company is positioned to take advantage of this market. By year-end 1980, 18 utilities had purchased GE's newest time-of-use meter, and the Company continued the commercial introduction of its Automatic Meter Reading and Control (AMRAC[®]) load management system.

The outlook. Power Systems Sector earnings are sensitive to electrical load growth. To offset the relatively low load growth forecast and achieve satisfactory results, the Sector has embarked on major programs to improve productivity and develop new businesses.

General Electric intends to play a major role in whatever forms of energy-related equipment and services are required in the 1980s and '90s.

Over the long term, significant growth opportunities are foreseen as the nation comes to grips with its imported-oil problem. GE is a leader in many energy technologies, and is aggressively pursuing a wide range of advanced energy development activities.



Christopher T. Kastner
Executive Vice President and
Sector Executive—Technical
Systems and Materials Sector

(In millions)	1980	1979	1978	1977	1976
Revenues	\$7,128	\$6,061	\$4,745	\$4,145	\$3,688
Net earnings	373	356	278	248	202

The high-technology businesses constituting the Technical Systems and Materials Sector had an 18% increase in revenues during 1980. Earnings were 5% ahead of the 1979 level as strong performances in aircraft engines and information and communications systems offset weakness in markets for engineered materials.

During 1980, the Sector continued to make heavy investments in advanced technologies, including microelectronics and engineered materials, which are expected to be important factors in General Electric's future growth.

The Sector accounted for 27% of total GE revenues and 24% of earnings in 1980.

Aircraft engine businesses serving the highly competitive commercial, military, marine and industrial markets produced strong sales and earnings increases.

High fuel costs and intensified competition among airlines stimulated demand for new aircraft with engines of improved efficiencies. GE commercial engines for this market include the CF6-80, which was selected by several airlines to power their Boeing 767 and Airbus Industrie A310 jetliners. Overall, 75 customers have now selected the CF6 or CFM56® for their high-bypass-engine-powered aircraft.

Seven airlines and the French Air Force have placed orders to re-engine their DC-8 aircraft with CFM56 engines jointly developed by the Company and SNECMA, the French engine manufacturer. A smaller fan version of this engine, the CFM56-3, has been offered to power new and derivative twin-engine aircraft.

In 1980, significant milestones in small commercial engines also were reached. The CT7 turboprop engine was chosen to power its first commuter-sized aircraft, the SAAB-Fairchild

340, and initial orders were received for CT7 turboshaft engines to power the Bell Textron 214ST helicopter. Production go-ahead was announced on the Canadair Ltd. Challenger E executive jet powered by CF34 turbofans.

In military markets, production continued on the F404 turbofan engine for the U.S. Navy's F/A-18, and Canada became the first non-U.S. customer to select this new fighter aircraft. The F404 and F101 DFE advanced fighter engines completed unprecedented durability tests. Both the F101 DFE and a new model of the J79 turbojet flew for the first time in U.S. Air Force F-16s. Flight testing also began on the U.S. Air Force KC-10 tanker powered by the CF6-50, and the CFM56 engine was selected for a program aimed at re-engining KC-135 tankers.

Sales of aircraft engine derivatives continued on the upswing. The U.S. Navy received its 30th Spruance Class destroyer powered by four LM2500 engines, while initial LM2500 deliveries were made for the Aegis cruiser. In industrial markets, large orders were received from Mexico and India for the LM2500 engine.

Aerospace operations increased their sales and earnings in 1980. Technologies of this business, which principally involves U.S. government contracts, span the space sciences, electronics and microelectronics, avionics, computer software and control systems.

In 1980, GE installed its first solid-state, three-dimensional radar system in Belgium as part of NATO's air defense network, and continued work on units for the U.S. Air Force, U.S. Marine Corps and the United Kingdom.

In space technology, GE is the prime contractor for developing Landsat D, a NASA earth-resources satellite, and DSCS III, an advanced defense communications satellite.

In avionics, including aircraft instruments



New CF6-80A turbofan engine under development by the Company is designed to provide take-off thrust of 48,000 pounds for the Boeing 767 and Airbus Industrie A310 transports.

and controls, digital systems are being tested for the Boeing 767 and 757 aircraft and the Navy F/A-18 jet fighter.

Information and communications systems operations continued their strong increase in sales and earnings during the year.

General Electric Information Services Company (GEISCO) increased its business applications in anticipation of ongoing changes in the computer industry and in customer needs. It broadened its market by expanding into manufacturing resource planning and by introducing an electronic purchase ordering system linking major retailers with large suppliers.

GEISCO strengthened its position as a

supplier of total data processing services through new moves into the software and services segment of the industry. Continued internal developments were complemented by external acquisitions which provide entry into new areas of systems design, advanced software and services.

The GE mobile communication products business produced strong gains in both sales and earnings. Demand for this equipment continued in both domestic and foreign markets.

Engineered materials increased sales in 1980. Although earnings were down due to inflation-driven cost increases and lower volume in depressed consumer-related markets, these businesses contributed a major share to

Sector earnings. General Electric high-performance materials encompass engineered plastics, silicone chemicals, tungsten-carbide metals, Man-Made[®] diamonds, Borazon[®] abrasives and electro-materials such as laminates and rechargeable batteries.

The Company continued to be a world leader in supplying high-technology engineered plastics. While slow auto sales affected plastics volume, this was partially offset by strong international demand and higher penetration of new markets.

Among significant facility additions was a new phenol plant at Mt. Vernon, Ind., that began operation in late 1980. Production of phenol, a key raw material required for several GE plastics, will help assure supply while im-

proving costs and maintaining high quality.

Emphasis on increased productivity in metal-working industries continued to bring opportunities for the Company's line of tungsten-carbide metals and Man-Made industrial diamonds for metal-cutting tools. Record oil-drilling activity stimulated strong demand for Stratapax[®] diamond drill blanks.

Medical systems businesses, supplying diagnostic imaging and patient monitoring equipment and services, had higher sales and earnings in 1980. International operations are expected to be aided by the acquisition of significant portions of the Thorn-EMI Medical sales and service operations outside the U.S. This acquisition reinforces the Company's ability to market and support its high-technology medical products in international markets.

Orders for General Electric's computed tomography (CT/T[®]) scanners increased markedly during the year, with significant contributions from many major world markets.

In ultrasound diagnostics, the Datason B[®] scanner received an enthusiastic reception.

A GE Microelectronics Center was authorized in 1980 and is being constructed at Research Triangle Park, N.C. The \$55 million facility will develop and produce advanced microelectronic components for GE products, and is designed to strengthen the Company's capabilities in custom integrated circuits.

The outlook for the variety of markets served by Technical Systems and Materials Sector is favorable over the long term. While sales of engineered materials were affected by the short-term decline in U.S. markets during the year, some improvement is expected in 1981.

While the airline industry is undergoing financial difficulties, prospects for new engine sales remain good because of the need for improving fuel economy.

Government markets for defense-related technology, services, and research and development should continue to expand.

Information services and communication equipment markets are expected to maintain their steady growth curves.

Emphasis on improved medical diagnostic procedures should sustain demand for high-technology medical systems.



GE's new L/U-Angio diagnostic x-ray system helps doctors examine the circulatory system of the head and body with a high degree of ease and accuracy. Another version helps diagnose coronary artery disease.

A new phenol plant at Mt. Vernon, Ind., will help provide both GE's supply of vital feedstocks and timely customer delivery of many GE plastics.





Alexander M. Wilson
Chairman of the Board
and Chief Executive Officer—
Utah International Inc.

(In millions)	1980	1979	1978	1977	1976
Revenues	\$1,374	\$1,260	\$1,032	\$965	\$1,003
Net earnings	224	208	180	196	181

General Electric's natural resources operations, chiefly Utah International Inc., in 1980 set records for both revenues and earnings. Earnings were up 8% on 9% higher revenues. These operations provided 5% of total GE revenues and 15% of earnings for 1980.

Earnings improvements were paced by oil and natural gas, iron ore, copper, domestic coal and ocean shipping operations—more than offsetting lower earnings for coking coal and uranium.

Continued growth is expected in the 1980s due to Utah's established position as a leading low-cost producer of energy and mineral resources, and because of vigorous ongoing exploration and development programs.

At year-end 1980, the sales backlog for minerals, including uranium, was \$6.8 billion, of which \$5.7 billion was scheduled for shipment after 1981. All contracts making up this backlog are payable in U.S. dollars.

Approximately 80% of 1980 natural resources revenues and 73% of net earnings originated from operations outside the U.S.

For additional information about certain of Utah's natural resources, see page 31.

Australian coking coal activities, although realizing somewhat lower earnings in 1980, continued to be Utah's major earnings source. Utah owns 89% of Blackwater Mine and 68% of four other Utah-operated open-cut coking coal mines, including Norwich Park Mine which had its first full year of production in 1980. In addition, the company owns 68% of the comparatively small underground Harrow Creek Mine.

A two-year labor agreement reached in July 1980 between management and the mining unions reflects an improved industrial climate at Utah's operations. Production, though, was interrupted for 10 weeks during the third

quarter when employees protested a government-proposed tax on subsidized housing.

Utah seeks expansion of its coking coal activities and is investigating the feasibility of developing other mine sites near present operations. Utah-operated coking coal mines now have a total annual production capacity, including partners' shares, of about 23 million metric tons.

Oil and natural gas operations of Ladd Petroleum, Utah's oil and gas affiliate, produced record revenues and earnings for the year. Higher prices for petroleum products was the primary reason for improved results. Ladd's activities are located in 16 states and three Canadian provinces, and Ladd is a participant in four foreign exploration joint ventures. Drilling and acquisition programs during 1980 expanded its property and reserve positions.

Iron ore activities made a small contribution to earnings in 1980. The largest operation is the Brazil-based Samarco, in which Utah owns 49% of the voting stock and provides debt guarantees. It operated at a break-even level in 1980 compared with a loss in 1979.

Domestic coal mining operations also contributed to the 1980 earnings gain, principally due to increased steam coal shipments from the Navajo and San Juan Mines located in the Four Corners area of New Mexico.

In 1980, Utah acquired the coal leases at San Juan, where previously it had operated under a mining contract, and it completed its purchase from National Steel Corporation of coal reserves in Kentucky and West Virginia.

Copper mining operations at Island Copper Mine in British Columbia, Canada, reported record



Clockwise from upper left: at Hay Point port in Australia, coal blended and recovered from large stockpiles by rail-mounted stackers/reclaimers is fed to shipping berths via conveyor belts. In the Gulf of Mexico near Galveston, Texas, and in other locations, Ladd Petroleum is stepping up exploration and development efforts. At Brazil's Point Ubu, Samarco iron ore pellets are loaded aboard large bulk carriers.

ord earnings in 1980. Earnings gains were due primarily to good price realizations for copper early in the year, and higher prices for one of the mine's by-products, gold.

Uranium mining operations are conducted in Wyoming by Pathfinder Mines Corporation, a wholly owned nonconsolidated subsidiary, all of whose common stock is held by independent trustees (see note 12 to financial statements). Pathfinder's increased loss during 1980 reflected sharply higher operating costs combined with the low prices received as final deliveries were made under contracts signed in the early 1970s. In 1981, Pathfinder is expected to begin making deliveries on higher-priced sales contracts. Longer-term prospects



are clouded by current market weakness, and future improvement is uncertain.

In other activities, ocean transportation operations, carried out in support of Utah's product marketing, realized improved results in 1980. Land development activities were less profitable than the previous year.

The outlook for Utah International's businesses is enhanced by expected long-term growth in world demand for its products. Recognizing this opportunity, Utah is intent upon expanding its current operations. Substantial increases in 1980 exploration and development expenditures reflect management's optimism about future market prospects.



Robert R. Frederick
Executive Vice President and
Sector Executive—International
Sector

Foreign multi-industry operations (in millions)	1980	1979	1978	1977	1976
Revenues	\$3,234	\$2,901	\$2,767	\$2,562	\$2,334
Net earnings	68	65	76	71	75
Total international operations — all Sectors					
Revenues outside the U.S.	\$9,597	\$7,840	\$7,014	\$6,138	\$5,567
Net earnings	639	526	486	415	445

General Electric's total international business from its six Sectors in 1980, which is summarized above, reported a 21% earnings rise on a 22% increase in revenues. International operations accounted for 38% of GE revenues and 42% of earnings.

Demand for a wide range of sophisticated products and services needed by the world's economies is expected to continue to make international business a major contributor to General Electric earnings.

The Company's international business is composed of four broad categories of activities: foreign multi-industry operations; U.S. exports of General Electric products and services; operations of nondiversified foreign affiliates including the foreign operations of Utah International; and technology licensing revenues.

A summary of international revenues appears below. Revenues from U.S. exports, operations of nondiversified foreign affiliates and technology licensing also are included in the amounts reported by the appropriate product Sectors elsewhere in this Report.

International revenues

(In millions)	1980	1979
Foreign operations and licensing	<u>\$5,816</u>	<u>\$5,068</u>
U.S. exports to:		
Unaffiliated customers	\$3,781	\$2,772
Affiliated companies	<u>484</u>	<u>467</u>
	<u>\$4,265</u>	<u>\$3,239</u>

Foreign multi-industry operations had generally good results in 1980 despite diffi-

cult economic conditions in many of the countries served. These operations are the direct responsibility of the International Sector and consist primarily of affiliates producing varied lines of products for local and export markets. They also include international construction operations.

Canadian General Electric Company Ltd., largest of the multi-industry affiliates, reported 1980 earnings significantly higher than those of 1979 on modestly higher sales. Improvements in electrical apparatus and construction products were partially offset by declines in consumer operations.

Latin American affiliate earnings were ahead of 1979, primarily because of strong consumer and industrial markets in Mexico and Venezuela.

Elsewhere, operating profit of restructured Italian operations improved. The Spanish affiliate continued in a loss position, largely as a result of depressed local economic conditions. Operations in Africa, the Middle East and Far East generally improved and continued to provide significant assistance in "pulling through" more orders for U.S. exports.

International construction operations had increased sales in 1980 with earnings about the same as the prior year.

Export sales to external customers by General Electric's domestic business operations, assisted by marketing and financial services provided by the International Sector, were up \$1.0 billion in 1980, 36% more than in the previous year. This sharp increase was led by high-technology products including



Clockwise from upper left: Brazil's hydroelectric power station, Salto Santiago, under construction on the Iguaçu River, includes turbines designed and built by Canadian GE and GE do Brasil. In Kimberly, Wis., high-quality paper products are manufactured using papermaking drives, motors and gears from Canadian GE. Helping carry out Mexico's electrification plan, GE recently sold six gas turbines to the national utility, including these advanced design 27-mw units in Ciudad Juárez.

aircraft engines and gas turbines.

As one of the nation's leading exporters, General Electric had total exports of \$4.3 billion in 1980, which exceeded its direct imports by approximately \$3.3 billion, thereby helping offset the unfavorable U.S. trade balance.

The backlog of Company orders from unfiliated customers for exports from the U.S. again increased, from \$4.6 billion in 1979 to \$5.1 billion for 1980.

The outlook. Prospects for continued growth of General Electric's international business in 1981 are partly attributable to the Company's wide geographic diversity. After some slowdown in early 1981, economies of

major foreign industrial countries and of some of the newly industrializing nations are expected to strengthen in the latter half of the year. This should provide an advantageous economic environment for General Electric operations in those countries, and is expected to stimulate demand for GE's exports from the U.S.

GE operations expect to continue their growth by expanding from their strong bases into countries with high levels of GNP growth — principally the oil-rich nations and several industrializing countries. In addition, International Sector has made notable progress in strengthening its affiliates, by selectively allocating resources to emerging markets which offer maximum potential.

Board of Directors

General Electric's Board of Directors conducted 11 meetings in 1980. The October meeting took place in Houston, Texas, where Board members also attended the 1980 share owners' Information Meeting.

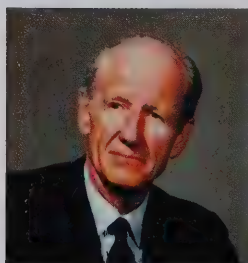
Specific Board attention was directed to proposed programs relating to the Company's strategies for strengthening its electronics capability—an increasingly important factor in today's competitive business environment.

In May, the quarterly dividend was increased by the Board, from 70 to 75 cents per share.

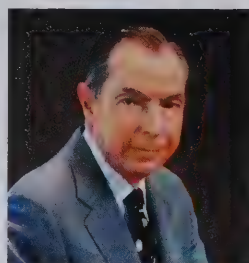
The seven Committees of the Board, listed at lower right, are designed to help the full Board keep pace with the growing scope and complexity of its responsibilities by con-

centrating on specific areas of interest:

- The Audit Committee, made up entirely of Directors from outside the Company, met four times. Its reviews included those of activities of both the Independent Public Accountants and the Corporate Audit Staff. At a joint meeting with the Finance and Operations Committees, the 1979 Annual Report and the 1980 Proxy Statement were approved.
- The Finance Committee, meeting four times, reviewed the Company's financial position, its investments, and the operations of the General Electric Credit Corporation.
- The Management Development and Compensation Committee held ten meetings and reviewed and approved changes in GE's



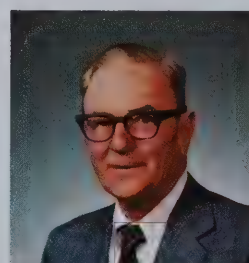
John E. Lawrence



Walter B. Wriston



Ralph Lazarus



Gilbert H. Scribner, Jr.



Edmund W. Littlefield



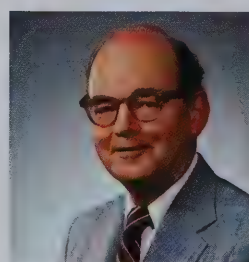
J. Paul Austin



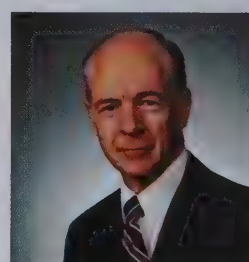
Reginald H. Jones



James G. Boswell II



Charles D. Dickey, Jr.



Henry L. Hillman

John E. Lawrence, President, James Lawrence & Co., Inc., cotton merchants, Boston, Mass. (1957)

Walter B. Wriston, Chairman of the Board and Director, Citicorp and Citibank, N.A., New York, N.Y. (1962)

Ralph Lazarus, Chairman of the Board and Director, Federated Department Stores, Inc., Cincinnati, Ohio (1962)

Gilbert H. Scribner, Jr., Chairman of the Board and Director, Scribner & Co., real estate and insurance, Chicago, Ill. (1962)

Edmund W. Littlefield, Chairman of the Executive Committee and Director, Utah International Inc., San Francisco, Calif. (1964)

J. Paul Austin, Chairman of the Board and Director, The Coca-Cola Company, Atlanta, Ga. (1964)

Reginald H. Jones, Chairman of the Board, Chief Executive Officer and Director, General Electric Company, Fairfield, Conn. (1971)

James G. Boswell II, Chairman of the Board, Chief Executive Officer and Director, J. G. Boswell Company, farming and related businesses, Los Angeles, Calif. (1971)

Charles D. Dickey, Jr., Chairman of the Board, Chief Executive Officer and Director, Scott Paper Company, Philadelphia, Pa. (1972)

Henry L. Hillman, President and Director, The Hillman Company, diversified operations and investments, Pittsburgh, Pa. (1972)

Henry H. Henley, Jr., Chairman of the Board, Chief Executive Officer and Director, Cluett, Peabody & Co., Inc., manufacturing and retailing of apparel, New York, N.Y. (1972)

Silas S. Cathcart, Chairman of the Board and Director, Illinois Tool Works Inc., diversified products, Chicago, Ill. (1972)

Samuel R. Pierce, Jr., Partner, Battle, Fowler, Jaffin, Pierce and Kheel, law firm, New York, N.Y. (1974)

Gertrude G. Michelson, Senior Vice President, External Affairs, R. H. Macy & Co., Inc., retailers, New York, N.Y. (1976)

Lewis T. Preston, Chairman of the Board and Director, J. P. Morgan & Co. Incorporated and Morgan Guaranty Trust Company, New York, N.Y. (1976)

George M. Low, President, Rensselaer Polytechnic Institute, Troy, N.Y. (1977)

Richard T. Baker, Consultant to Ernst & Whinney, public accountants, Cleveland, Ohio. (1977)

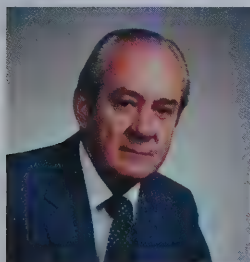
executive compensation and management.

- The Nominating Committee met three times. It assessed candidates for Directorships and the memberships of other Board Committees.
- The Operations Committee met five times. At one session, a joint meeting with the Technology and Science Committee at the Company's Plastics Business Operations facility in Mt. Vernon, Ind., it conducted a business review of the Engineered Materials Group, including perspectives on the Group's anticipated financial performance through 1985.
- The Public Responsibilities Committee held two meetings and reviewed key public issues affecting the Company and the current

status of the evolving national energy policy.

- The Technology and Science Committee met twice, concentrating on those areas of technological development promising the most significant progress for the Company.

The Board is made up primarily of Directors from outside GE. The 1980 Board members are listed at lower left in order of their Board seniority, with the year in which they were elected shown in parentheses. Besides Mr. Jones, three other directors are not candidates for re-election. Messrs. Lawrence and Austin are retiring from the Board after 23 and 16 years of service, respectively. Mr. Pierce has resigned to become U.S. Secretary of Housing and Urban Development.



Henry H. Henley, Jr.



Silas S. Cathcart



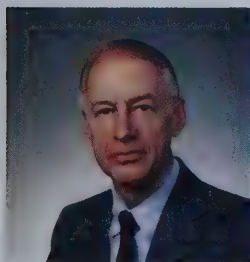
Samuel R. Pierce, Jr.



Gertrude G. Michelson



Lewis T. Preston



George M. Low



Richard T. Baker



John F. Burlingame



Edward E. Hood, Jr.



John F. Welch, Jr.

John F. Burlingame, Vice Chairman of the Board, Executive Officer and Director, General Electric Company, Fairfield, Conn. (1980)

Edward E. Hood, Jr., Vice Chairman of the Board, Executive Officer and Director, General Electric Company, Fairfield, Conn. (1980)

John F. Welch, Jr., Chairman-elect and Director, General Electric Company, Fairfield, Conn. (1980)

Committees of the Board

Audit Committee
Richard T. Baker, *Chairman*, John E. Lawrence, George M. Low, Samuel R. Pierce, Jr., Lewis T. Preston

Finance Committee
Edmund W. Littlefield, *Chairman*, Reginald H. Jones, *Vice Chairman*, Charles D. Dickey, Jr., Henry H. Henley, Jr., Gilbert H. Scribner, Jr., Walter B. Wriston

Management Development and Compensation Committee
Ralph Lazarus, *Chairman*, J. Paul Austin, Silas S. Cathcart, John E. Lawrence, Walter B. Wriston

Nominating Committee
Charles D. Dickey, Jr., *Chairman*, J. Paul Austin, Henry H. Henley, Jr., Ralph Lazarus, Edmund W. Littlefield, George M. Low, Gertrude G. Michelson

Operations Committee
Henry L. Hillman, *Chairman*, John F. Welch, Jr., *Vice Chairman*, James G. Boswell II, Silas S. Cathcart, Gertrude G. Michelson, Samuel R. Pierce, Jr., Lewis T. Preston, Gilbert H. Scribner, Jr.

Public Responsibilities Committee
Henry H. Henley, Jr., *Chairman*, John F. Burlingame, *Vice Chairman*, Richard T. Baker, Henry L. Hillman, Ralph Lazarus, Gertrude G. Michelson, Samuel R. Pierce, Jr.

Technology and Science Committee
George M. Low, *Chairman*, Edward E. Hood, Jr., *Vice Chairman*, James G. Boswell II, Charles D. Dickey, Jr., Henry L. Hillman, Edmund W. Littlefield

Company domestic employment, including consolidated affiliates, averaged 285,000 during 1980, about the same as 1979.

An analysis of domestic GE and General Electric Credit Corporation employment for the year ended September 30 demonstrates the Company's active support of U.S. progress toward improved career opportunities for women and minorities. The number of women managers increased from 1,288 to 1,478—up 15%. The number of minority managers increased 8%, from 1,332 to 1,432. The total of women professionals went up from 4,690 to 5,349, an increase of 14%, while the number of minority professionals climbed from 3,348 to 3,663—up 9%. More than 19,000 women and 9,000 minorities were promoted in 1980. Overall, women account for 28% of General Electric employees, and minorities 12%.

Wages and benefits for GE employees continue to provide a competitive total compensation package. In 1980, the new Dental Assistance Plan was introduced as an additional benefit for employees and their dependents.

Adjustments in the pensions of retired employees were approved by the Board of Directors. Effective February 1, 1981, a maximum

increase of 10% was applied to the pensions of those who retired on or before May 1, 1979, and smaller increases were applicable to employees who retired after May 1, 1979, and before the February 1, 1981, effective date. This marks the third pension increase for GE retired employees in the last four years.

Medical care for the Company's retirees was also enhanced with the introduction of a new prescription drug plan and improved medical insurance provisions.

GE's occupational safety and health record and experience compare favorably with those for companies in similar businesses. In 1980, General Electric continued to emphasize people-oriented safety programs and health-hazard education.

Contributions to philanthropic organizations by the Company and the General Electric Foundation totaled \$13 million. The GE Foundation's annual report will be available in April upon request. Included in the Foundation's contributions were \$1,050,000 for minority engineering programs, a major part of an effort to improve career education.

A Companywide survey identified 80 programs in 48 GE plant communities where GE business operations are contributing to local minority engineering activities and scholarships. These efforts helped lead to steady progress in the national effort, which in 1980 resulted in B.S. degrees in engineering for 2,383 minority students—a 90% increase since the program began in 1973.

Strengthening the technical work force of General Electric is a key ongoing objective. Efforts to recruit, retain and retrain the professional and managerial people needed for the changing GE of the 1980s are aggressively under way. During the year, the Company's new two-year Edison Engineering Program—designed to provide entry-level training opportunities for engineers—saw its first graduates.



At plant locations such as the GE computer center in Bridgeport, Conn., employees show minority students the opportunities for careers in science and engineering.

Marking a carefully planned succession of executive leadership, the Board of Directors in December named John F. Welch, Jr., as Chairman, effective April 1, 1981. He will succeed Reginald H. Jones as Chairman and Chief Executive Officer on that date, when Mr. Jones retires after 41 years of outstandingly effective service with General Electric.

John F. Burlingame and Edward E. Hood, Jr., continue as Vice Chairmen of the Board and Executive Officers reporting to the Chairman-elect, with realigned and increased responsibilities. Reporting to Mr. Burlingame are the International Sector, Power Systems Sector, Utah International Inc., Corporate Planning and Development Staff, and Corporate Relations Staff. Reporting to Mr. Hood are the Consumer Products and Services Sector, Industrial Products and Components Sector, Technical Systems and Materials Sector, Corporate Production and Operating Services, and Corporate Technology Staff.

These executives head the team of 141 managers on this and the following two pages.

Integration of the programs of these senior managers is aided by two management groups: the Corporate Policy Board made up of the Chairman, Chairman-elect, Vice Chairmen and the six Senior Vice Presidents pictured at right; and the Corporate Executive Council which includes these same ten officers plus the six Executive Vice Presidents and Sector Executives pictured earlier in this Annual Report with their Sector reviews.

The 12 other Senior Vice Presidents, pictured on pages 26 and 27 along with the President of GECC, provide management for groups of General Electric businesses.

The continued availability of broadly experienced leadership for General Electric in the future is being achieved through a diverse program of learning opportunities provided by the Company worldwide.

Corporate Policy Board

Reginald H. Jones
Chairman of the Board
and Chief Executive
Officer

John F. Welch, Jr.
Chairman-elect

John F. Burlingame
Vice Chairman of the
Board and Executive
Officer

Edward E. Hood, Jr.
Vice Chairman of the
Board and Executive
Officer

Arthur M. Bueche
Senior Vice President
Corporate Technology

Daniel J. Fink
Senior Vice President
Corporate Planning and
Development

Robert B. Kurtz
Senior Vice President
Corporate Production
and Operating Services

Leonard C. Maier, Jr.
Senior Vice President
Corporate Relations

Walter A. Schlatterbeck
Senior Vice President
General Counsel and
Secretary

Thomas O. Thorsen
Senior Vice President
Finance



Arthur M. Bueche



Daniel J. Fink

Corporate Staff Officers

Thomas R. Casey, M.D.
VP & Company
Medical Director

James J. Costello
VP & Comptroller

James R. Donnalley, Jr.
VP – Corporate Environmental
Issues Project

Frank P. Doyle
VP – Corporate Employee
Relations

Dale F. Frey
VP & Treasurer

Fred W. Garry
VP – Corporate
Engineering

Marion S. Kellogg
VP – Corporate
Consulting Services

Raymond F. Letts
VP – Corporate
Operating Services

Theodore P. LeVino
VP – Executive
Manpower

Edward H. Malone
VP – Trust Investments
Operation

Terence E. McClary
VP – Corporate Financial
Administration

John B. McKitterick
VP – Corporate
Development

Phillips S. Peter
VP – Corporate Government
Relations Operation

Roland W. Schmitt
VP – Corporate Research
and Development



Robert B. Kurtz

R. Howard Annin, Jr.
VP – Northeastern
Regional Relations

Kristian H. Christiansen
VP – Southeastern
Regional Relations

William B. Frogue
VP – Southwestern
Regional Relations

Harry M. Lawson
VP – Western Regional
Relations

William C. Lester
VP – East Central
Regional Relations

Iver J. Petersen
VP – Central Regional
Relations

Donald D. Scarff
VP – Atlantic Regional
Relations

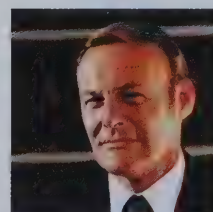
Cecil S. Semple
VP – Corporate
Customer Relations



Leonard C. Maier, Jr.



Walter A. Schlatterbeck



Thomas O. Thorsen

Management – operations

James A. Baker
Executive Vice President
and Sector Executive
Industrial Products and Components Sector

James P. Curley
Senior VP & Group
Executive – Contractor
Equipment Group

William Longstreet
VP & General Manager
Distribution Equipment
Division

James M. McDonald
VP & General Manager
Apparatus Distribution
Sales Division

Donald K. Grierson
Senior VP & Group
Executive – Industrial
Electronics Group

Erwin M. Koeritz
VP & General Manager
Electronic Components
Division

James R. Olin
VP & General Manager
Industrial Electronics
Systems Division

Van W. Williams
Senior VP & Group
Executive – Motor
Group

George B. Farnsworth
VP & General Manager
Component Motor
Division

Eugene J. Kovarik
VP & General Manager
Industrial Motor
Division



James P. Curley



Donald K. Grierson



Van W. Williams

Ralph B. Glotzbach
VP – Industrial Products
and Components
Customer and Industry
Relations Operation

Kertis P. Kuhlman
VP & General Manager
General Electric Supply
Company Division

Donald E. Perry
VP & General Manager
Industrial Sales Division

Bruce O. Roberts
VP & General Manager
Apparatus Service
Division

Carl J. Schlemmer
VP & General Manager
Transportation Systems
Division

Robert R. Frederick
Executive Vice President
and Sector Executive
International Sector

Willis E. Forsyth
VP & General Manager
Latin American Operations

Rodger E. Farrell
General Manager
Andean Countries
Division

J. Richard Stonesifer
Chairman of the Board and
Chief Executive Officer
General Electric do Brasil
S.A., Latin American
Operations

Paolo Fresco
VP & General Manager
Europe and Africa Operations

Edward C. Bavaria
VP & General Manager
Middle East/Africa
Business Development
Division

George J. Stathakis
VP & General Manager
International Trading
and Construction Operations

Arthur V. Puccini
VP & General Manager
Export Sales and
Trading Division

Edward F. Roache
VP & General Manager
International
Construction Division

Vittorio Orsi
Managing Director
SADE/SADELM
Construction Operations
International Construction
Division

Frank D. Kittredge
VP & General Manager
Far East Area Division

Alton S. Cartwright
Chairman of the Board &
Chief Executive Officer
Canadian General Electric
Company Limited (CGE)
(a General Electric affiliate)

William R. C. Blundell
President and Chief
Executive Officer, Canadian
Appliance Manufacturing
Company Ltd. (a CGE
affiliate)

Robert T. E. Gillespie
Vice President
Consumer and Construction
Products Division, CGE

D. Forrest Rankine
Vice President
Apparatus and Heavy
Machinery Division, CGE

Herman R. Hill
Executive Vice President
and Sector Executive
Power Systems Sector

Roy H. Beaton
Senior VP & Group
Executive – Nuclear
Energy Group

A. Philip Bray
VP & General Manager
Nuclear Power Systems
Division

Warren H. Bruggeman
VP & General Manager
Nuclear Products
Division

Henry E. Stone
VP & General Manager
Nuclear Engineering
Division

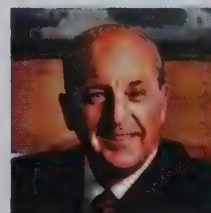
Bertram Wolfe
VP & General Manager
Nuclear Fuel and
Services Division

George B. Cox
Senior VP & Group
Executive – Turbine Group

Robert H. Goldsmith
VP & General Manager
Gas Turbine Division

Richard W. Kinnard
VP & General Manager
Large Steam Turbine-
Generator Division

George H. Schofield
VP & General Manager
Industrial and Marine
Steam Turbine Division



Roy H. Beaton



George B. Cox

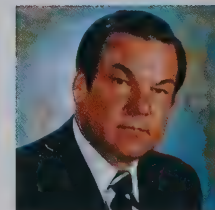
John A. Urquhart
Senior VP & Group
Executive – Power
Delivery Group

Nicholas Boraski
VP & General Manager
Large Transformer
Division

Donald C. Berkey
VP & General Manager
Energy Systems and
Technology Division

Robert T. Bruce
VP & General Manager
Installation and
Service Engineering
Division

Edward W. Springer
VP & General Manager
Electric Utility Sales
Division



John A. Urquhart

Christopher T. Kastner
Executive Vice President
and Sector Executive
Technical Systems and Materials Sector

Donald S. Bates
Senior VP & Group
Executive – Information
and Communications
Systems Group

Gregory J. Liemandt
VP & General Manager
Information Services
Division

Donald J. Meyers
VP & General Manager
Mobile Communications
Division

Charles R. Carson
Senior VP & Group
Executive – Engineered
Materials Group

Alastair C. Gowan
VP – Engineered Materials
Technical Operation

Glen H. Hiner
VP & General Manager
Plastics Operations

Eugene F. Apple
General Manager
Specialty Plastics Division

D. Rex Blanchard
Managing Director
General Electric Plastics
B.V.

John D. Opie
VP & General Manager
Lexan Products Division

Thomas H. Fitzgerald
VP & General Manager
Silicone Products Division

Robert J. Gerardi
General Manager
Metallurgical Division



Donald S. Bates



Charles R. Carson



Brian H. Rowe

Brian H. Rowe
Senior VP & Group
Executive – Aircraft
Engine Group

James N. Krebs
VP & General Manager
Military Engine Operations

Orville R. Bonner
VP & General Manager
Marine and Industrial
Engine Projects Division

William J. Crawford III
VP & General Manager
Military Engine
Projects Division

W. George Krall
General Manager
Aircraft Engine
Manufacturing Division

Frank E. Pickering
VP & General Manager
Aircraft Engine
Engineering Division

James E. Worsham
VP & General Manager
Commercial Engine
Operations

Neil Burgess
VP & General Manager
Airline Programs Division

Harry C. Stonecipher
VP & General Manager
Commercial Engine
Projects Division

Louis V. Tomasetti
Senior VP & Group Executive
Aerospace Group

William A. Anders
VP & General Manager
Aircraft Equipment Division

Lee L. Farnham
VP – DSCS Program

Thomas I. Paganelli
VP & General Manager
Electronic Systems Division

Allan J. Rosenberg
VP & General Manager
Space Systems Division

Ladislav W. Warzecha
VP & General Manager
Re-entry Systems Division

Donald S. Beilman
VP & General Manager
Advanced Microelectronics
Operations

James E. Dykes
General Manager
Microelectronics Center

Walter L. Robb
VP & General Manager
Medical Systems Division



Louis V. Tomasetti

Paul W. Van Orden
Executive Vice President
and Sector Executive
Consumer Products and Services Sector

Richard O. Donegan
Senior VP & Group
Executive – Major
Appliance Group

Robert E. Fowler, Jr.
VP & General Manager
Major Appliance
Manufacturing Division

Richard T. Gralton
VP & General Manager
Major Appliance
Marketing Operations

Philip J. Driecl
VP & General
Manager – Major
Appliance Retail
Sales Division

William L. Grim
VP & General Manager
Major Appliance
Contract Sales
Division

James F. West
VP & General Manager
Major Appliance
Marketing Division

John C. Truscott
VP & General Manager
Major Appliance
Applied Research and
Engineering Division

Ralph D. Ketchum
Senior VP & Group
Executive – Lighting
Group

Paul L. Dawson
VP & General Manager
Lamp Components
Division

David O. Gifford
VP & General Manager
International Lighting
Division

Henry J. Singer
VP & General Manager
Lamp Products
Division



Richard O. Donegan



Ralph D. Ketchum

James R. Birle
VP & General Manager
Air Conditioning Division

Fred R. Wellner
General Manager
Television Division

William R. Webber
President
General Electric Video, Inc.

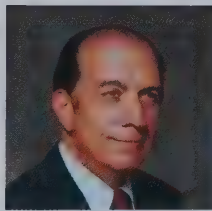
Walter W. Williams
VP & General Manager
Housewares and Audio
Division

John W. Stanger
President &
Chief Executive Officer
General Electric Credit
Corporation (GECC)
(an affiliate of General
Electric)

Lawrence A. Bossidy
Executive VP & Chief
Operating Officer
General Electric Credit
Corporation

Norman P. Blake
VP & General
Manager – GECC
Commercial and
Industrial Financing
Division

Bernard P. Long
VP & General
Manager – GECC
Consumer Financing
Division



John W. Stanger

Alexander M. Wilson
Chairman of the Board and
Chief Executive Officer
Utah International Inc.

James T. Curry
Financial VP

Stephen K. Brimhall
VP & Treasurer

Melvin H. Kennedy
Vice President

Ronald K. Lamson
Controller

Ralph J. Long
Senior VP & Manager
Mineral Exploration and
Development Division

Donn K. Furgerson
VP & Manager
Marine Transportation

Robert O. Wheaton
VP & Manager – Business
Development

Charles K. McArthur
Senior VP & Manager
Mining Division

John T. Atkins
VP & Manager – Western
Coal Operations

Robert N. Hickman
VP & Manager – Mining
Technical Services

Boyd C. Paulson
Vice President

George W. Tarleton
VP & Manager – Mineral
Products Marketing

John H. Moore
President – Ladd
Petroleum Corporation
(a subsidiary of Utah)

Keith G. Wallace
Senior VP & Manager
Australasia Division

Timothy R. Winterer
VP & General Manager
Utah Development
Company (a subsidiary
of Utah)

Bruce T. Mitchell
Secretary

J. Gilbert Selway
General Counsel

Financial review

This financial review supplements the detailed information presented in the audited financial statements which begin on page 34. In addition, reference should be made to the ten-year summary of historical information on pages 46 and 47, which provides a longer-term perspective.

Sales and net earnings were up 11% and 7%, respectively, in 1980 from 1979. This performance, despite a period of adverse economic conditions in the United States as well as in a number of the world's industrialized economies, emphasizes the strength achieved through the diversity and changing mix of General Electric operations. Information about industry and geographic segments is on pages 44 and 45.

In some of the shorter-cycle businesses, particularly those related to consumer and residential construction markets, physical volume was lower in 1980 due to the domestic economic slowdown. In other businesses, particularly where order-to-shipment cycles are longer, as well as where exports from the U.S. are important, 1980 physical volume was higher. Overall, it is estimated that additional volume of shipments accounted for about one-fourth of the increased sales dollars in 1980. During 1979, higher volume had accounted for somewhat more than one-half of the 14% increase in sales dollars from 1978.

Operating margin dollars, as shown in the Statement of Earnings on page 34, were higher in 1980 and 1979 than in each of the previous years. Details of operating costs are shown in note 2 to the financial statements. Operating margin as a percent to sales has declined somewhat since the high in 1978. Despite continued emphasis on productivity improvements, which tend to have longer-term impact, costs of compensation and benefits and purchased materials, supplies and services have been escalating more rapidly than the Company has been able to recover the increases through selling prices. Also, the Company has substantially increased expenditures in recent years to benefit future growth. Research and development expenditures from the Company's own funds were \$760 million in 1980. This was 19% more than in 1979, when expenditures were 23% more than in 1978.

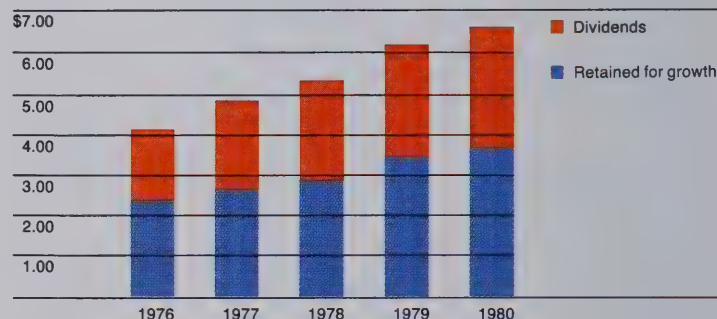
General Electric derives income from a variety of operating and nonoperating sources in addition to amounts realized from sales of products and services. These other sources of Company income have been substantial in recent years, including steady increases in earnings from our nonconsolidated finance affiliate, General Electric Credit Corporation. GECC's earnings rose 28% in 1980 to \$115 million from the 1979 amount of \$90 million, which was 17% more than 1978 earnings. More detail of other income for 1978-1980 is included in note 4 to the financial statements.

Interest expense and other financial charges were \$314 million in 1980, compared with \$258 million in 1979 and \$224 million in 1978. The 1980 increase from 1979 reflected higher worldwide interest rates as well as a somewhat greater level of borrowing by affiliates. Interest expense in 1979 was more than in 1978 principally due to higher rates.

Provision for income taxes was \$958 million in 1980 (\$953 million and \$894 million in 1979 and 1978, respectively). Note 6 to the financial statements provides details about income tax provisions and GE's effective tax rate.

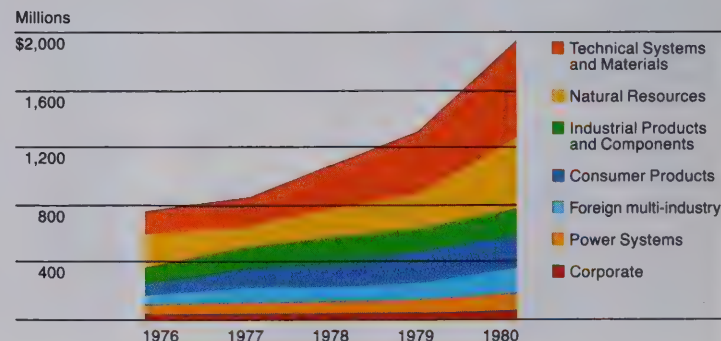
Dividends declared were \$2.95 per share in 1980, the fifth consecutive year in which the rate increased, and 74% more than in 1976. Earnings per share of \$6.65 in 1980 were 61% more than in 1976. During the years shown below, dividends have been equivalent to just under half of the Company's earnings, with the remainder retained to maintain the Company's productive capacity and support future business growth.

Earnings per Share



Capital expenditures reached a record \$1.9 billion in 1980, up 54% from 1979 and more than two-and-a-half times greater than in 1976. Identification of needs for capital expenditures and selective allocation of funds to promising growth businesses, as well as to productivity and technological improvements, are among the most important aspects of the Company's strategic planning system. Expenditures for property, plant and equipment for each of the Company's Sectors for the past five years are depicted below.

Capital Expenditures



In addition to programs aimed at improving productivity, expenditures have been made for increased capacity or to provide adequate sources of key raw materials, such as plastics feedstocks in the Technical Systems and Materials Sector. Still other expenditures are aimed at completely new resources for GE, such as the purchase by Utah International of coal properties in the Eastern United States. Several Sectors and the corporate Research and Development Center are making substantial investments oriented to expanding and improving the Company's integrated capabilities in advanced electronics.

Estimated property, plant and equipment expenditures in future periods to complete projects already approved aggregated \$1.0 billion as of year-end 1980.

Cash and marketable securities at year-end 1980 totaled \$2.2 billion, some \$375 million less than a year earlier. Short-term borrowings increased \$222 million during 1980 to a total of \$1.1 billion at year end. As a result of these changes, a total of \$597 million of the Company's net liquid assets were utilized during 1980, primarily to fund current period and long-term growth programs. Net liquid assets stood at \$1.1 billion at December 31, 1980.

The decrease in cash and marketables was concentrated in the U.S. and reflected significantly higher expenditures for additions to domestic-based property, plant and equipment. The borrowings increase related mainly to foreign affiliate operations where GE's general practice is to utilize local financing for most funding needs.

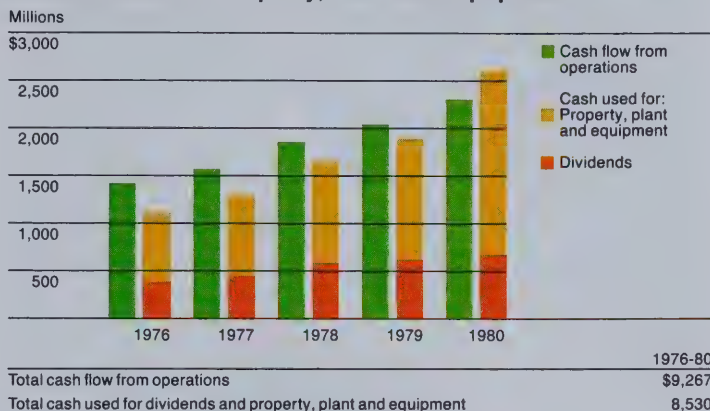
Working capital, excluding net liquid assets mentioned above, increased \$376 million and consisted principally of higher customer receivables (up \$548 million) and inventories (up \$182 million), partially offset by additions to accounts payable for materials and services, and similar short-term amounts owed to others. The Company's total working capital was \$2.3 billion at year-end 1980. With respect to receivables, double-digit interest rates, continuing high inflation, an uncertain economy, and tightening in the availability of bank credit created an environment which necessitated stronger than usual collection efforts in 1980. However, the overall condition of receivables remains good. Inventory levels in the various product businesses were managed throughout the year in response to actual and anticipated customer demand, and year-end balances were at levels consistent with the needs of the business.

Over the last five years, the Company's total working capital has increased by \$704 million, led by additions totaling \$1.3 billion of cash and marketables. Most of the latter increase came from internally generated funds. Since 1975, net liquid assets have increased by \$915 million, after reducing long-term borrowings by \$239 million. This strengthening of the Company's liquidity position has been accomplished by strong emphasis on improving the turnover of those elements of working capital, such as customer receivables, which are closely associated with growth in sales volume. This emphasis will continue.

Significant amounts of funds are generated from Company operations, principally through net earnings and non-cash charges against earnings for depreciation, de-

pletion and amortization. The most substantial recurring applications of funds occur in the form of increasing dividends and expenditures for property, plant and equipment. As illustrated in the chart, funds provided from operations have been more than adequate during the five-year period shown to cover those commitments. During 1980, dividends and expenditures for new plant exceeded funds generated from operations by \$279 million. This difference was met with amounts available from prior years.

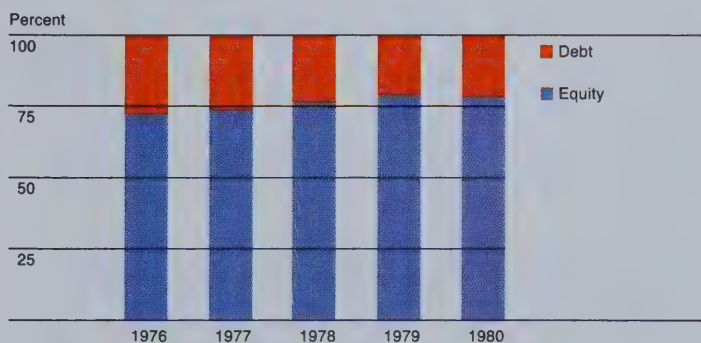
Comparison of Cash Flow from Operations with Cash used for Dividends and Property, Plant and Equipment



The Statement of Changes in Financial Position on page 36 presents further information about sources and applications of funds.

Maintaining a sound capital structure is a key element in meeting the Company's financial objective of achieving sustained earnings growth and a good return on investment. GE's financial planning involves considerable attention to anticipating needs and maintaining a sound relationship between share owners' equity and funds borrowed from others, both long- and short-term. As shown in the chart below, the ratio of equity to total capital has been increased from 73.5% at the end of 1976 to 80.0% at the end of 1980.

Total Capital Invested

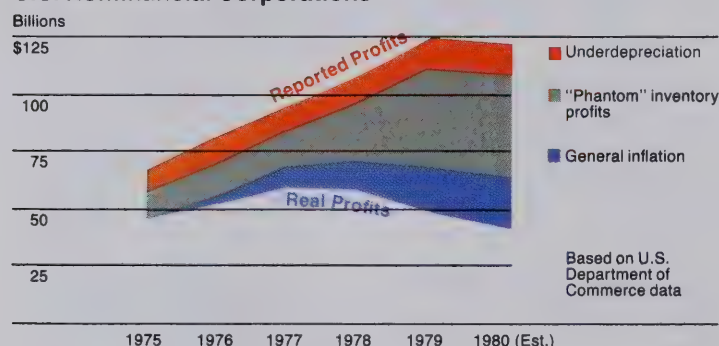


During recent years the Company has been able to maintain and grow its business from internally generated funds. As profitable opportunities are developed, it is likely that additional sources of funds will be needed. GE's strong capital structure and credit ratings should ensure availability of adequate financial resources for continued growth.

Inflation in the U.S. continued at a high level during 1980, and most economists currently forecast double-digit rates again in 1981. Your management has stressed repeatedly the distortion that inflation has on the traditional methods of financial reporting. This distortion affects individuals, companies, and aggregate financial data on which national policy decisions are based.

The chart below highlights this distortion by comparing reported after-tax earnings with *real* after-tax earnings for all U.S. nonfinancial corporations for the years 1975 through 1980. Three inflation-related factors account for the difference between reported earnings and real earnings: underdepreciation, reflecting the shortfall from writing off facilities using acquired rather than replacement costs; "phantom" profits which occur when lower than current costs of inventory output are charged against revenues; and the loss by more than one-third in the general purchasing power of a dollar since 1975.

Reported and Real Profits of U.S. Nonfinancial Corporations



As reported, the aggregate after-tax earnings of all U.S. nonfinancial corporations grew each year except for a small decrease in 1980. The average annual growth rate as reported since 1975 was about 13%.

However, after adjustment for inflation, real earnings in 1980 were lower than any other year during the period, and actually have declined since 1975 at an average rate of about 2% per year.

These data indicate that corporations, just like individuals, are suffering from the pernicious effects of inflation. It is of vital importance to all Americans that intelligent and forceful action be taken to begin the long and arduous task of removing the main controllable causes of inflation — growth of the public sector at the expense of the private sector accompanied by burgeoning federal deficits and nonproductive regulation.

Your Company's financial results are not immune to the distorting effects of inflation. Financial data elsewhere in this Annual Report, including the audited financial statements, are presented using the traditional basis of financial reporting which does not fully identify the effects of inflation. The table at upper right presents information which supplements the traditional financial statements in order to gauge the effect of changing prices on results for 1980.

Supplementary Information Effect of Changing Prices

(In millions; except per-share amounts)	For the year ended December 31, 1980		
	As reported	Adjusted for (a)	
		general inflation	current costs
Sales of products and services to customers	\$24,959	\$24,959	\$24,959
Cost of goods sold	17,751	17,904	17,892
Selling, general and administrative expense	4,258	4,258	4,258
Depreciation, depletion and amortization	707	1,052	1,092
Operating costs	22,716	23,214	23,242
Operating margin	2,243	1,745	1,717
Other income	564	564	564
Interest and other financial charges	(314)	(314)	(314)
Earnings before income taxes	2,493	1,995	1,967
Provision for income taxes	(958)	(958)	(958)
Minority interest	(21)	(8)	(8)
Net earnings	\$ 1,514	\$ 1,029	\$ 1,001
Earnings per share	\$ 6.65	\$ 4.52	\$ 4.40
Effective tax rate	38.4%	48.0%	48.7%
Share owners' equity at Dec. 31	\$ 8,200	\$12,377	\$12,913

(a) In dollars of average 1980 purchasing power.

This table shows two different ways of attempting to remove inflationary impacts from financial results as traditionally reported. In both "adjusted for" columns, restatements are made to (1) cost of goods sold for the current cost of replacing inventories, and (2) depreciation for the current cost of plant and equipment. The column headed "general inflation" uses only a broad index to calculate the restatement, while the column headed "current costs" uses data more specifically applicable to GE.

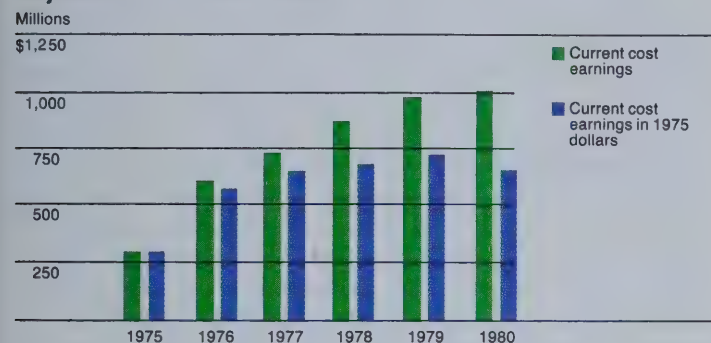
The restatements to cost of goods sold are relatively small for GE because extensive use of last-in, first-out inventory accounting already largely reflects current costs in the traditional earnings statement. However, restatements to depreciation, which allocates plant and equipment costs to expenses over time, are relatively large because of the high rate of inflation, particularly in the last three years. This is because traditional reporting of depreciation based on original cost does not adequately reflect higher prices for replacement of productive capacity of fixed assets which were purchased a number of years ago. Both of these methods of adjusting for inflation result in lower earnings than traditionally reported.

Significantly, because inflation adjustments are not allowable for tax purposes, the "real" tax rate was about 10 points higher than in traditional statements.

Your management believes the "current cost" method is more representative of GE's results, but emphasizes the considerable subjectivity involved in the calculations. These types of adjusted data are likely to be more useful in reviewing trends over a period of time, rather than in making comparisons of restatements for any one period or in specific analyses of one period compared with another. GE's after-tax earnings on the traditional basis of accounting have been higher each year from 1976 through

1980. Since 1975, a recession year like 1980, the average annual growth rate for earnings as reported was about 16%. Using the "current cost" method of removing the effects of inflation, earnings were as depicted on the green bars in the chart below. This shows a pattern similar to earnings as reported on the traditional basis, with an average annual growth rate since 1975 of about 24%.

After-Tax Earnings of General Electric Adjusted for Current Costs



However, the purchasing power of a dollar in 1980 had diminished by more than one-third since 1975. To reflect this deterioration of the dollar's purchasing power, the blue bars in the chart express current-cost earnings for the years since 1975 in dollars of 1975 purchasing power. Even on this basis, the data indicate a real average annual growth rate in earnings since 1975 of about 14%.

General Electric's real annual growth rate of 14% in earnings since 1975 contrasts with the trend in real earnings for the aggregate of all U.S. nonfinancial corporations. As shown on page 30, aggregate earnings for all U.S. nonfinancial corporations declined during the 1975-1980 period at an average rate of about 2% per year.

Dealing with inflation as it affects your Company requires identifying the distorting effects of inflation, understanding them, recognizing them in business planning, and managing assets and operations so as to overcome the effects of inflation.

The Company is conducting an internal program titled Effectively Coping with Inflation. This program helps participants to understand chronic high inflation, realize how it distorts financial data, and learn how to minimize the impact. More than 3,000 key managers and professionals participated in this program through 1980.

Effective asset management through differentiated capital resource allocation is especially important in coping with inflation. Investment in modern plant and equipment provides a direct effect on operations by improving productivity in the face of escalating costs. The Company's commitment to improving productivity is demonstrated by substantial increases in expenditures for new plant and equipment during recent years. In addition, strategic emphasis is placed on those business opportunities having inflation-protection characteristics. As one example, General Electric Credit Corporation owns over \$5 billion of assets leased to others. Many of these assets offer significant potential gains on residual values after expiration of the leases.

Another important hedge against inflation over the long term is represented by the mineral resource assets of the Company. Neither traditional nor inflation-adjusted methods of measuring financial results can adequately portray the value of unique, non-reproducible mineral resource assets. Some measure of the significance of these assets is conveyed by statistical data of General Electric's wholly owned, consolidated affiliate, Utah International.

Coking coal is mined by a Utah affiliate, Utah Development Company (UDC). UDC mines and exports coking coal from five mines under long-term renewable Special Coal Mining Leases granted by the state of Queensland, Australia. At December 31, 1980, UDC's share of present export entitlements under these leases amounted to 414.7 million metric tons of coking coal. Total proved reserve quantities of the leased areas exceed current export entitlements. Certain conditions exist under which export entitlements may be increased. The degree to which additional reserves could be mined would depend on commercial feasibility and obtaining additional export entitlements. Fourteen percent of the amount presently available is committed under long-term sales contracts.

Utah has steam coal reserves at several locations in the United States. In the West, Utah has steam coal reserves at three principal locations: the Navajo Mine, held under long-term lease from the Navajo Indian Tribe in New Mexico; the Trapper Mine in Colorado; and the San Juan Mine in New Mexico. For a number of years, Utah had mined coal at the San Juan Mine on a contract basis but acquired the coal leases in December 1980. Total proved and probable reserves at these locations aggregated 1,464 million tons at year-end 1980. Twenty-two percent of these reserves are currently committed under long-term sales contracts.

In 1980 Utah acquired properties in Kentucky and West Virginia which contain 360 million tons of proved and probable reserves, primarily steam coal. These reserves are under development and commercial production is expected to begin on a limited basis during 1981.

Coal	Year ended December 31		
	1980	1979	1978
(Quantities in millions)			
Coking coal (UDC share in metric tons)			
Shipped (a)	13.1	13.8	13.0
Average price/metric ton (b)	\$51.09	\$48.39	\$47.78
Steam coal (tons) (c)			
Shipped (a)	10.5	8.8	7.1
Average price/ton	\$ 7.82	\$ 7.09	\$ 6.03

(a) Quantities shipped about the same as 1978-80 production.
 (b) Represents average prices published by an agency of the Australian government since July 1978 for Queensland production, including Utah-operated mines.
 (c) Excludes San Juan Mine prior to Utah's acquiring the coal leases in December 1980.

GE's principal copper resource is the wholly owned Island Copper Mine in British Columbia, Canada. Estimated reserves at the end of 1980 contain approximately 183 million tons of ore with a grade of approximately 0.48% copper. This mine also produces gold,

silver, molybdenum, and rhenium as by-products. Fifteen percent of the copper ore reserves are presently committed under long-term sales contracts. These contracts call for sales based on London Metal Exchange prices.

Island Copper Mine	Year ended December 31		
	1980	1979	1978
(Quantities in thousands)			
Ore milled (tons)	15,192	14,705	15,653
Average percent recovery	85.2%	87.5%	86.6%
Pounds of copper			
– sold (a)	110,305	110,309	111,672
Average price per pound of copper			
– copper	\$ 0.98	\$ 0.93	\$ 0.64
– by-products	0.65	0.43	0.20

(a) Quantities sold about the same as 1978-80 production.

Technical notes. The effect of changing prices on General Electric as set forth on page 30 has been prepared in accordance with Financial Accounting Standards Board (FASB) requirements. Information in the following table presents additional data in accordance with FASB requirements.

Current cost information in average dollars of 1980 purchasing power(a)

(In millions except per-share amounts)							Purchasing power gain (loss) (c)
Sales	Net earnings (b)	Share owners' equity Dec. 31 (b)	Per common share				
			Earnings (b)	Dividends	Market price Dec. 31		
1980	\$24,959	\$1,001	\$12,913	\$4.40	\$2.95	\$59	\$(198)
1979	25,493	1,119	12,659	4.93	3.12	54	(237)
1978	24,819	1,092	12,508	4.79	3.16	57	(145)
1977	23,817	1,001	12,095	4.40	2.86	66	(69)
1976	22,717	885	11,947	3.92	2.46	79	(23)
1975	21,590	479	11,414	2.13	2.45	68	22

(a) Average 1980 dollars, using the U.S. Consumer Price Index (1967 = 100): 1975–161.2; 1976–170.5; 1977–181.5; 1978–195.4; 1979–217.4; and 1980–246.8.

(b) Current cost basis.

(c) On net monetary items.

Proper use of supplementary information concerning the effect of changing prices requires an understanding of certain basic concepts and definitions.

In the table on page 30, “as reported” refers to information drawn directly from the financial statements and notes on pages 34 to 45. This information is prepared using generally accepted accounting principles which render an accounting based on the number of actual dollars involved in transactions, with no recognition given to the fact that the value of the dollar changes over time.

“Adjusted for general inflation” refers to information prepared using a different approach to transactions involving inventory and property, plant and equipment assets. Under this procedure, the number of dollars involved in transactions at different dates are all restated to equivalent amounts in terms of the general purchasing power of the dollar as it is measured by the Consumer Price Index for all Urban Consumers (CPI-U). For example, \$1,000 invested in a building in 1967 would be restated to its

1980 dollar purchasing power equivalent of \$2,468 to value the asset and calculate depreciation charges. Similarly, the 1979 purchases of non-LIFO inventory sold in 1980 would be accounted for at their equivalent in terms of 1980 dollars, rather than in terms of the actual number of dollars spent. Using this method, earnings for 1979 in 1980 dollars were \$1,208 million (\$5.31 per share) and share owners’ equity at December 31, 1979, was \$11,845 million.

“Adjusted for current costs” refers to information prepared using a third approach to inventory and property, plant and equipment transactions. In this case, rather than restating to dollars of the same general purchasing power, estimates of specific current costs of the assets are used. Principal types of information used to adjust for changes in specific prices (current costs) are: for inventory costs, GE-generated indices of price changes for specific goods and services; and for property, plant and equipment, externally generated indices of price changes for major classes of assets. Data for mineral resource assets have been adjusted by applying internally generated indices to reflect current costs. Adjustments for oil and gas properties are based on industry indices.

At December 31, 1980, the current cost of inventory was \$5,701 million, and of property, plant and equipment was \$8,797 million (\$5,251 million and \$7,004 million, respectively, at December 31, 1979). In dollars of average 1980 purchasing power, estimated current costs applicable to such assets increased during 1980, or during the part of the year the assets were held, by approximately \$1,356 million, which was \$196 million less than the \$1,552 million increase which could be expected because of general inflation. The comparable increase for 1979 in dollars of average 1980 purchasing power was approximately \$1,261 million, which was \$373 million less than the \$1,634 million increase which could be expected because of general inflation.

In presenting results of either of the supplementary accounting methods for more than one year, real trends are more evident when results for all years are expressed in terms of the general purchasing power of the dollar for a designated period. Results of such restatements are generally called “constant dollar” presentations. In the six-year presentations shown at left, dollar results for earlier periods have been restated to their equivalent number of constant dollars of 1980 general purchasing power (CPI-U basis).

Because none of these restatements is allowable for tax purposes under existing laws, income tax amounts are the same as in the traditional statements (but expressed in constant dollars).

All average annual growth rates in this Report use the “least squares” method of calculation.

There are a number of other terms and concepts which may be of interest in assessing the significance of the supplementary information shown. However, it is management’s opinion that the basic concepts discussed above are the most significant for the reader to have in mind while reviewing this information.

Report of management

To the Share Owners of General Electric Company

The financial statements of General Electric Company and consolidated affiliates are presented on pages 34 through 45 of this Annual Report. These statements have been prepared by management and are in conformity with generally accepted accounting principles appropriate in the circumstances. The statements include amounts that are based on our best estimates and judgments. Financial information elsewhere in this Annual Report is consistent with that in the financial statements.

General Electric maintains a strong system of internal financial controls and procedures, supported by a staff of corporate auditors and supplemented by resident auditors located around the world. This system is designed to provide reasonable assurance, at appropriate cost, that assets are safeguarded and that transactions are executed in accordance with management's authorization and recorded and reported properly. The system is time-tested, innovative and responsive to change. Perhaps the most important safeguard in this system is the fact that the Company has long emphasized the selection, training and development of professional financial managers to implement and oversee the proper application of its internal controls and the reporting of management's stewardship of corporate assets and maintenance of accounts in conformity with generally accepted accounting principles.

The independent public accountants provide an objective, independent review as to management's discharge of its responsibilities insofar as they relate to the fairness of reported operating results and financial condition. They obtain and maintain an understanding of GE's accounting and financial controls, and conduct such tests and related procedures as they deem necessary to arrive at an opinion on the fairness of financial statements.

The Audit Committee of the Board of Directors, which

is composed solely of Directors from outside the Company, maintains an ongoing appraisal of the effectiveness of audits and the independence of the public accountants. The Committee meets periodically with the public accountants, management and internal auditors to review the work of each. The public accountants have free access to the Committee, without management present, to discuss the results of their audit work and their opinions on the adequacy of internal financial controls and the quality of financial reporting. The Committee also reviews the Company's accounting policies, internal accounting controls, and the Annual Report and proxy material.

The Company has long recognized its obligation to conduct its affairs in an ethical and socially responsible manner. Its commitment to these objectives is reflected in key Company policy statements covering, among other things, potentially conflicting outside business interests of Company employees, compliance with antitrust laws and proper conduct of domestic and international business practices. It is not always possible to ensure that all employees fully understand the importance of complying with the specific intent and spirit of these policies. When deviations are detected or otherwise reported, the Company will continue to act in a responsible manner with respect to appropriate disclosure and reporting. Additionally, your management will continue efforts to create a strong compliance environment for the ethical conduct of domestic and international business activities.



Senior Vice President
Finance



Chairman of the Board
and Chief Executive Officer

February 20, 1981

Report of independent certified public accountants

To Share Owners and Board of Directors of General Electric Company

We have examined the statement of financial position of General Electric Company and consolidated affiliates as of December 31, 1980 and 1979, and the related statements of earnings, retained earnings and changes in financial position for each of the three years in the period ended December 31, 1980. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of General Electric Company and consolidated affiliates at December 31, 1980 and 1979, and the results of their operations and the changes in their financial position for each of the three years in the period ended December 31, 1980, in conformity with generally accepted accounting principles applied on a consistent basis.



Peat, Marwick, Mitchell & Co.
345 Park Avenue, New York, N.Y. 10154

February 20, 1981

Statement of earnings

General Electric Company and consolidated affiliates

For the years ended December 31 (In millions)		1980	1979	1978
Sales	Sales of products and services to customers (note 1)	\$24,959	\$22,461	\$19,654
Operating costs	Cost of goods sold	17,751	15,991	13,915
	Selling, general and administrative expense	4,258	3,716	3,205
	Depreciation, depletion and amortization	707	624	576
	Operating costs (notes 2 and 3)	<u>22,716</u>	<u>20,331</u>	<u>17,696</u>
	Operating margin	2,243	2,130	1,958
	Other income (note 4)	564	519	419
	Interest and other financial charges (note 5)	<u>(314)</u>	<u>(258)</u>	<u>(224)</u>
Earnings	Earnings before income taxes and minority interest	2,493	2,391	2,153
	Provision for income taxes (note 6)	(958)	(953)	(894)
	Minority interest in earnings of consolidated affiliates	<u>(21)</u>	<u>(29)</u>	<u>(29)</u>
	Net earnings applicable to common stock	<u>\$ 1,514</u>	<u>\$ 1,409</u>	<u>\$ 1,230</u>
	Earnings per common share (in dollars) (note 7)	\$6.65	\$6.20	\$5.39
	Dividends declared per common share (in dollars)	\$2.95	\$2.75	\$2.50
	Operating margin as a percentage of sales	9.0%	9.5%	10.0%
	Net earnings as a percentage of sales	6.1%	6.3%	6.3%

Statement of retained earnings

General Electric Company and consolidated affiliates

For the years ended December 31 (In millions)		1980	1979	1978
Retained earnings	Balance January 1	\$6,307	\$5,522	\$4,862
	Net earnings	1,514	1,409	1,230
	Dividends declared on common stock	(670)	(624)	(570)
	Balance December 31	<u>\$7,151</u>	<u>\$6,307</u>	<u>\$5,522</u>

The information on pages 33 and 37-45 is an integral part of these statements.

Statement of financial position

General Electric Company and consolidated affiliates

At December 31 (In millions)		1980	1979
Assets	Cash (note 8)	\$ 1,601	\$ 1,904
	Marketable securities (note 8)	600	672
	Current receivables (note 9)	4,339	3,647
	Inventories (note 10)	3,343	3,161
	Current assets	<u>9,883</u>	<u>9,384</u>
	Property, plant and equipment – net (note 11)	5,780	4,613
	Investments (note 12)	1,820	1,691
	Other assets (note 13)	<u>1,028</u>	<u>956</u>
	Total assets	<u>\$18,511</u>	<u>\$16,644</u>
Liabilities and equity	Short-term borrowings (note 14)	\$ 1,093	\$ 871
	Accounts payable (note 15)	1,671	1,477
	Progress collections and price adjustments accrued	2,084	1,957
	Dividends payable	170	159
	Taxes accrued	628	655
	Other costs and expenses accrued (note 16)	1,946	1,753
	Current liabilities	<u>7,592</u>	<u>6,872</u>
	Long-term borrowings (note 17)	1,000	947
	Other liabilities	1,565	1,311
	Total liabilities	<u>10,157</u>	<u>9,130</u>
	Minority interest in equity of consolidated affiliates	<u>154</u>	<u>152</u>
	Preferred stock (\$1 par value; 2,000,000 shares authorized; none issued)	—	—
	Common stock (\$2.50 par value; 251,500,000 shares authorized; 231,463,949 shares issued 1980 and 1979)	579	579
	Amounts received for stock in excess of par value	659	656
	Retained earnings	<u>7,151</u>	<u>6,307</u>
		<u>8,389</u>	<u>7,542</u>
	Deduct common stock held in treasury	(189)	(180)
	Total share owners' equity (notes 18, 19, and 20)	<u>8,200</u>	<u>7,362</u>
	Total liabilities and equity	<u>\$18,511</u>	<u>\$16,644</u>
	Commitments and contingent liabilities (note 21)		

The information on pages 33 and 37-45 is an integral part of this statement.

Statement of changes in financial position

General Electric Company and consolidated affiliates

For the years ended December 31 (In millions)		1980	1979	1978
Source of funds	From operations			
	Net earnings	\$1,514	\$1,409	\$1,230
	Depreciation, depletion and amortization	707	624	576
	Investment tax credit deferred — net	56	45	25
	Income tax timing differences	63	(37)	32
	Earnings retained by nonconsolidated finance affiliates	(22)	(17)	(16)
	Minority interest in earnings of consolidated affiliates	21	29	29
		<u>2,339</u>	<u>2,053</u>	<u>1,876</u>
	Increase in long-term borrowings	122	50	96
	Newly issued common stock	—	—	3
	Disposition of treasury shares	136	148	190
	Increase in current payables other than short-term borrowings	498	786	570
	Decrease in investments	—	—	24
	Other — net	143	101	150
	Total source of funds	<u>3,238</u>	<u>3,138</u>	<u>2,909</u>
Application of funds	Additions to property, plant and equipment	1,948	1,262	1,055
	Dividends declared on common stock	670	624	570
	Increase in investments	129	281	—
	Reduction in long-term borrowings	69	97	386
	Purchase of treasury shares	145	156	196
	Increase in current receivables	692	358	306
	Increase in inventories	182	158	399
	Total application of funds	<u>3,835</u>	<u>2,936</u>	<u>2,912</u>
Net change	Net change in cash, marketable securities and short-term borrowings	<u>\$ (597)</u>	<u>\$ 202</u>	<u>\$ (3)</u>
Analysis of net change	Increase (decrease) in cash and marketable securities	\$ (375)	\$ 113	\$ 185
	Decrease (increase) in short-term borrowings	(222)	89	(188)
	Increase (decrease) in net liquid assets	<u>\$ (597)</u>	<u>\$ 202</u>	<u>\$ (3)</u>

The information on pages 33 and 37-45 is an integral part of this statement.

Summary of significant accounting policies

Basis of consolidation

The financial statements consolidate the accounts of the parent General Electric Company and those of all majority-owned and controlled companies ("affiliated companies"), except finance companies whose operations are not similar to those of the consolidated group. All significant items relating to transactions among the parent and affiliated companies are eliminated from the consolidated statements.

The nonconsolidated finance companies are included in the statement of financial position under investments and are valued at equity plus advances. In addition, companies in which GE and/or its consolidated affiliates own 20% to 50% of the voting stock ("associated companies") are included under investments, valued at the appropriate share of equity plus advances. After-tax earnings of non-consolidated finance companies and associated companies are included in the statement of earnings under other income.

A nonconsolidated uranium mining company (see note 12) is also included under investments and is valued at lower of cost or equity, plus advances.

Sales

The Company and its consolidated affiliates record a transaction as a sale only when title to products passes to the customer or when services are performed in accordance with contract terms.

Vacation expense

Most employees earn credits during the current year for vacations to be taken in the following year. The expense for this liability is accrued during the year vacations are earned rather than in the year vacations are taken.

Pensions

Investments of the General Electric Pension Trust, which funds the obligations of the General Electric Pension Plan, are carried at amortized cost plus programmed appreciation in the common stock portfolio. The funding program and Company cost determination for the Pension Plan use 6% as the estimated rate of future Trust income. Trust income includes recognition of appreciation in the common stock portfolio on a systematic basis which does not give undue weight to short-term market fluctuations. Programmed appreciation will not be recognized if average carrying value exceeds average market value, calculated on a moving basis over a multiyear period.

Changes in prior service liabilities of the Plan are amortized over 20 years. Net actuarial gains and losses are amortized over 15 years.

Costs of a separate, supplementary pension plan, primarily affecting long-service professional and managerial employees, are not funded. Current service costs and am-

ortization of prior service liabilities over a period of 20 years are being charged to operating expenses currently.

Investment tax credit

The investment tax credit is recorded by the "deferral method" and is amortized as a reduction of the provision for taxes over the lives of the facilities to which the credit applies, rather than being "flowed through" to income in the year the asset is acquired.

Inventories

Substantially all manufacturing inventories located in the U.S. are valued on a last-in first-out, or LIFO, basis. Manufacturing inventories outside the U.S. are generally valued on a first-in first-out, or FIFO, basis. Valuations are based on the cost of material, direct labor and manufacturing overhead, and do not exceed net realizable values. Certain indirect manufacturing expenses are charged directly to operating costs during the period incurred, rather than being inventoried.

Mining inventories, which include principally mined ore and coal, metal concentrates and mining supplies, are stated at the lower of average cost or market. The cost of mining inventories includes both direct and indirect costs consisting of labor, purchased supplies and services, and depreciation, depletion and amortization of property, plant and equipment.

Property, plant and equipment

Manufacturing plant and equipment includes the original cost of land, buildings and equipment less depreciation, which is the estimated cost consumed by wear and obsolescence. An accelerated depreciation method, based principally on a sum-of-the-years digits formula, is used to record depreciation of the original cost of manufacturing plant and equipment purchased and installed in the U.S. subsequent to 1960. Most manufacturing plant and equipment located outside the U.S. is depreciated on a straight-line basis. If manufacturing plant and equipment is subject to abnormal economic conditions or obsolescence, additional depreciation is provided. Expenditures for maintenance and repairs of manufacturing plant and equipment are charged to operations as incurred.

The cost of mining properties includes initial expenditures and cost of major rebuilding projects which substantially increase the useful lives of existing assets. The cost of mining properties is depreciated, depleted or amortized over the useful lives of the related assets by use of unit-of-production, straight-line or declining-balance methods.

Mining exploration costs are expensed until it is determined that the development of a mineral deposit is likely to be economically feasible. After this determination is made, all costs related to further development are capitalized. Amortization of such costs begins upon commencement of production and is over ten years or the productive life of the property, whichever is less.

Oil and gas properties are accounted for by use of the full-cost method.

Notes to financial statements

1. Sales

Approximately one-eighth of sales were to agencies of the U.S. government, which is the Company's largest single customer. The principal source of these sales was the Technical Systems and Materials segment of the Company's business.

2. Operating costs

Operating costs by major expense categories are shown below:

(In millions)	1980	1979	1978
Employee compensation, including benefits	\$ 9,196	\$ 8,286	\$ 7,401
Materials, supplies, services and other costs	12,696	11,320	9,867
Depreciation, depletion and amortization	707	624	576
Taxes, except Social Security and those on income	299	259	251
Increase in inventories during the year	(182)	(158)	(399)
	<u>\$22,716</u>	<u>\$20,331</u>	<u>\$17,696</u>

Supplemental details are as follows:

(In millions)	1980	1979	1978
Maintenance and repairs	\$784	\$775	\$672
Company-funded research and development	760	640	521
Social Security taxes	484	471	397
Advertising	315	282	247
Mineral royalties and export duties	80	82	79

Foreign currency translation gains, after recognizing related income tax effects and minority interest share, were \$40 million in 1980 and \$12 million in 1979 and 1978.

3. Pensions

Total pension costs of General Electric and consolidated affiliates were \$478 million in 1980, \$413 million in 1979, and \$381 million in 1978. General Electric and its affiliates have a number of pension plans. The most significant of these plans is the General Electric Pension Plan (the "Plan"), in which substantially all employees in the U.S. are participating. Approximately 80,800 persons were receiving benefits at year-end 1980 (75,700 and 72,100 at year-end 1979 and 1978, respectively).

Pension benefits under the Plan are funded through the General Electric Pension Trust. Earnings of the Trust, including the programmed recognition of common stock appreciation, as a percentage of the carrying value of the portfolio, were 8.4% for 1980 and 1979, and 7.8% for 1978. The limitation on recognition of programmed appre-

ciation of common stock was not exceeded in any year.

Condensed information for the General Electric Pension Trust appears below. Prior-year as well as current-year data are presented in accordance with new standards issued in 1980 by the Financial Accounting Standards Board (FASB).

General Electric Pension Trust

Change in net assets at current value

(In millions) For the year	1980	1979	1978
Net assets at January 1	\$4,968	\$4,202	\$3,734
Company contributions	404	341	317
Employee contributions	86	94	83
Investment income	435	383	312
Pensions paid	(254)	(225)	(201)
Unrecognized portion of change in current value	779	173	(43)
Net assets at December 31	<u>\$6,418</u>	<u>\$4,968</u>	<u>\$4,202</u>

Net assets at current value

(In millions) December 31	1980	1979	1978
U.S. government obligations and guarantees	\$ 44	\$ 118	\$ 93
Corporate bonds and notes	727	496	340
Real estate and mortgages	825	713	725
Common stocks and other equity securities	4,181	3,193	2,726
	<u>5,777</u>	<u>4,520</u>	<u>3,884</u>
Cash and short-term investments	553	371	240
Other assets — net	88	77	78
Current value of net assets	<u>\$6,418</u>	<u>\$4,968</u>	<u>\$4,202</u>
Carrying value of net assets	<u>\$5,593</u>	<u>\$4,922</u>	<u>\$4,329</u>

The actuarial present value of accumulated plan benefits for the General Electric Pension Plan and the supplementary pension plan together represent over 90% of accumulated pension plan benefits for General Electric and its consolidated affiliates. These present values have been calculated using a 6% interest rate assumption as of December 31 for each of the years in the table below. The table also sets forth the total of the current value of Pension Trust assets and the relevant accruals in the Company's accounts.

General Electric Pension Plan and Supplementary Pension Plan

(In millions) December 31	1980	1979	1978
Estimated actuarial present value of accumulated plan benefits:			
Vested benefits	\$6,027	\$5,426	\$4,732
Non-vested benefits	415	382	331
Total benefits	<u>\$6,442</u>	<u>\$5,808</u>	<u>\$5,063</u>
Current value of trust assets plus accruals	<u>\$6,580</u>	<u>\$5,075</u>	<u>\$4,273</u>

For pension plans not included above, there was no significant difference between accumulated benefits and the relevant fund assets plus accruals.

The foregoing amounts are based on new FASB standards which differ from those used by the Company for funding and cost determination purposes. Based on the actuarial method used by the Company, and with assets at carrying value, unfunded and unamortized liabilities for the two principal pension plans totaled \$964 million, \$1,082 million and \$882 million at year-end 1980, 1979 and 1978, respectively.

An increase in pensions of retired employees effective February 1, 1981, will increase the actuarial present value of accumulated vested benefits by an estimated \$196 million.

4. Other income

(In millions)	1980	1979	1978
Net earnings of GE Credit Corporation	\$115	\$ 90	\$ 77
Income from:			
Marketable securities and bank deposits	229	229	140
Customer financing	72	70	49
Royalty and technical agreements	52	50	44
Associated companies and non-consolidated uranium mining affiliate	22	11	34
Other investments:			
Interest	21	20	19
Dividends	13	11	10
Other sundry items	40	38	46
	<u>\$564</u>	<u>\$519</u>	<u>\$419</u>

5. Interest and other financial charges

Interest capitalized on major property, plant and equipment projects in 1980 was \$21 million.

6. Provision for income taxes

(In millions)	1980	1979	1978
U.S. federal income taxes:			
Estimated amount payable	\$574	\$599	\$590
Effect of timing differences	14	(31)	(13)
Investment credit deferred — net	56	45	25
	<u>644</u>	<u>613</u>	<u>602</u>
Foreign income taxes:			
Estimated amount payable	238	323	221
Effect of timing differences	39	(6)	45
	<u>277</u>	<u>317</u>	<u>266</u>
Other (principally state and local income taxes)	37	23	26
	<u>\$958</u>	<u>\$953</u>	<u>\$894</u>

All General Electric consolidated U.S. federal income tax returns have been closed through 1972.

Provision has been made for federal income taxes to be paid on that portion of the undistributed earnings of affiliates and associated companies expected to be remitted to the parent company. Undistributed earnings intended to be reinvested indefinitely in affiliates and associated companies totaled \$1,111 million at the end of 1980, \$944 million at the end of 1979, and \$815 million at the end of 1978.

Changes in estimated foreign income taxes payable and

in the effect of timing differences result principally from fluctuations in foreign earnings and tax rates, and from recognizing in the current year for tax payment purposes the results of transactions in Australia recorded for financial reporting purposes in other years.

Investment credit amounted to \$92 million in 1980, compared with \$76 million in 1979 and \$51 million in 1978. In 1980, \$36 million were included in net earnings, compared with \$31 million in 1979 and \$26 million in 1978. At the end of 1980, the amount still deferred and to be included in net earnings in future years was \$262 million.

Effect of timing differences on U.S. federal income taxes

(In millions)	1980	1979	1978
Increase (decrease) in provision for income taxes			
Tax over book depreciation	\$ 48	\$ 23	\$ 26
Undistributed earnings of affiliates and associated companies	29	(2)	8
Margin on installment sales	1	(10)	(10)
Provision for warranties	(46)	(36)	(31)
Other — net	(18)	(6)	(6)
	<u>\$ 14</u>	<u>\$(31)</u>	<u>\$(13)</u>

The cumulative net effect of timing differences has resulted in a deferred-tax asset which is shown under other assets.

Reconciliation from statutory to effective income tax rates

	1980	1979	1978
U.S. federal statutory rate	46.0%	46.0%	48.0%
Reduction in taxes resulting from:			
Varying tax rates of consolidated affiliates (including DISC)	(4.7)	(3.3)	(3.4)
Inclusion of earnings of the Credit Corporation in before-tax income on an after-tax basis	(2.1)	(1.7)	(1.7)
Investment credit	(1.5)	(1.3)	(1.2)
Income tax at capital gains rate	(0.1)	—	(0.6)
Other — net	0.8	0.2	0.4
Effective tax rate	<u>38.4%</u>	<u>39.9%</u>	<u>41.5%</u>

Based on the location of the component furnishing goods or services, domestic income before taxes was \$1,854 million in 1980 (\$1,706 million in 1979 and \$1,592 million in 1978). The corresponding amounts for foreign-based operations were \$639 million, \$685 million and \$561 million in each of the last three years, respectively. Provision for income taxes is determined on the basis of the jurisdiction imposing the tax liability. Therefore, U.S. and foreign taxes shown at the left do not compare directly with these segregations.

7. Earnings per common share

Earnings per share are based on the average number of shares outstanding. Any dilution which would result from the potential exercise or conversion of such items as stock options or convertible debt outstanding is insignificant (less than 1% in 1980, 1979 and 1978).

8. Cash and marketable securities

Deposits restricted as to usage and withdrawal or used as partial compensation for short-term borrowing arrangements were not material.

Marketable securities (none of which are equity securities) are carried at the lower of amortized cost or market value. Carrying value was substantially the same as market value at year-end 1980 and 1979.

9. Current receivables

(In millions) December 31	1980	1979
Customers' accounts and notes	\$ 3,816	\$3,254
Associated companies	25	36
Nonconsolidated affiliates	17	7
Other	584	439
	4,442	3,736
Less allowance for losses	(103)	(89)
	<u>\$ 4,339</u>	<u>\$3,647</u>

10. Inventories

(In millions) December 31	1980	1979
Raw materials and work in process	\$ 2,082	\$1,943
Finished goods	961	966
Unbilled shipments	300	252
	<u>\$ 3,343</u>	<u>\$3,161</u>

About 84% of total inventories are valued using the LIFO method of inventory accounting.

If the FIFO method of inventory accounting had been used to value all inventories, they would have been \$2,240 million higher than reported at December 31, 1980 (\$1,950 million higher at year-end 1979).

11. Property, plant and equipment

(In millions)	1980	1979
Major classes at December 31:		
Manufacturing plant and equipment		
Land and improvements	\$ 139	\$ 125
Buildings, structures and related equipment	2,329	2,098
Machinery and equipment	6,197	5,314
Leasehold costs and manufacturing plant under construction	453	372
Mineral property, plant and equipment	1,917	1,456
	<u>\$11,035</u>	<u>\$9,365</u>
Cost at January 1	\$ 9,365	\$8,328
Additions	1,948	1,262
Dispositions	(278)	(225)
Cost at December 31	<u>\$11,035</u>	<u>\$9,365</u>

Accumulated depreciation, depletion and amortization

Balance at January 1	\$ 4,752	\$4,305
Current-year provision	707	624
Dispositions	(214)	(188)
Other changes	10	11
Balance at December 31	<u>\$ 5,255</u>	<u>\$4,752</u>

Property, plant and equipment less depreciation, depletion and amortization at December 31

	<u>\$ 5,780</u>	<u>\$4,613</u>
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12. Investments

(In millions) December 31	1980	1979
Nonconsolidated finance affiliates	\$ 938	\$ 824
Nonconsolidated uranium mining affiliate	188	157
Miscellaneous investments (at cost):		
Government and government-guaranteed securities	187	233
Other	136	148
	<u>323</u>	<u>381</u>
Marketable equity securities	44	44
Associated companies	342	301
Less allowance for losses	(15)	(16)
	<u>\$1,820</u>	<u>\$1,691</u>

Condensed consolidated financial statements for the principal nonconsolidated finance affiliate, General Electric Credit Corporation (GECC), follow. During the normal course of business, GECC has transactions with the parent General Electric Company and certain of its consolidated affiliates, and GECC results are included in General Electric's consolidated U.S. federal income tax return. However, virtually all products financed by GECC are manufactured by companies other than General Electric. More detailed information is available in GECC's 1980 Annual Report, copies of which may be obtained by writing to: General Electric Credit Corporation, P.O. Box 8300, Stamford, Connecticut 06904.

General Electric Credit Corporation Financial position

(In millions) December 31	1980	1979
Cash and marketable securities	\$ 531	\$ 374
Receivables:		
Time sales and loans	8,159	7,480
Deferred income	(1,380)	(1,124)
	6,779	6,356
Investment in leases	1,643	1,207
Sundry receivables	197	141
Total receivables	8,619	7,704
Allowance for losses	(249)	(231)
Net receivables	8,370	7,473
Other assets	443	321
Total assets	<u>\$9,344</u>	<u>\$8,168</u>
Notes payable:		
Due within one year	\$4,425	\$3,921
Long-term — senior	1,984	1,743
— subordinated	400	325
Other liabilities	707	631
Total liabilities	7,516	6,620
Deferred income taxes	876	718
Deferred investment tax credit	21	13
Capital stock	658	566
Additional paid-in capital	12	12
Retained earnings	261	239
Equity	931	817
Total liabilities, deferred tax items and equity	<u>\$9,344</u>	<u>\$8,168</u>

General Electric Credit Corporation
Current and retained earnings

(In millions) For the year	1980	1979	1978
Earned income	<u>\$1,389</u>	<u>\$1,102</u>	<u>\$ 813</u>
Expenses:			
Interest and discount	719	528	337
Operating and administrative	451	396	315
Provision for losses			
— receivables	75	69	56
— other assets	3	(2)	8
Provision for income taxes	26	21	20
	<u>1,274</u>	<u>1,012</u>	<u>736</u>
Net earnings	115	90	77
Less dividends	(93)	(72)	(62)
Retained earnings at January 1	<u>239</u>	<u>221</u>	<u>206</u>
Retained earnings at December 31	<u>\$ 261</u>	<u>\$ 239</u>	<u>\$ 221</u>

Investment in the nonconsolidated uranium mining affiliate consists of investment in a wholly owned affiliate (established in the course of obtaining a U.S. Department of Justice Business Advisory Clearance Procedure Letter in connection with the 1976 Utah merger) to which all of the then existing uranium business of Utah has been transferred. All common stock of this affiliate has been placed in a voting trust controlled by independent voting trustees. Prior to the year 2000, General Electric and its affiliates may not withdraw the common stock from the voting trust except for sale to unaffiliated third parties. Directors and officers of the affiliate may not be directors, officers, or employees of General Electric, Utah or of any of their affiliates. Uranium may not be sold by this affiliate, in any state or form, to, or at the direction of, General Electric or its affiliates.

All outstanding shares of preferred stock of the uranium affiliate are retained by Utah as an affiliate of General Electric. Payment of cumulative quarterly dividends out of legally available funds on this preferred stock is mandatory in amounts equal to 85% of the affiliate's net after-tax income for the previous quarter (without taking account of any deduction for exploration expense as defined). Utah, as holder of the preferred stock, must make loans with up to ten-year maturities when requested by the affiliate, although the aggregate amount of such loans need not at any time exceed preferred dividend payments for the immediately preceding two calendar years.

The estimated realizable value of miscellaneous investments was \$287 million at December 31, 1980 (\$350 million at December 31, 1979).

Marketable equity securities are valued at the lower of cost or market. Aggregate market value of marketable equity securities was \$242 million and \$181 million at year-end 1980 and 1979, respectively. At December 31, 1980, gross unrealized gains on marketable equity securities were \$198 million.

Investments in nonconsolidated affiliates and associated companies included advances of \$180 million at December 31, 1980 (\$123 million at December 31, 1979).

13. Other assets

(In millions) December 31	1980	1979
Long-term receivables	\$340	\$307
Deferred charges	198	145
Real estate development projects	132	81
Recoverable engineering costs on government contracts	113	121
Customer financing	103	107
Licenses and other intangibles — net	75	52
Deferred income taxes	21	98
Other	46	45
	<u>\$1,028</u>	<u>\$956</u>

Licenses and other intangibles acquired after October 1970 are being amortized over appropriate periods of time.

14. Short-term borrowings

The average balance of short-term borrowings, excluding the current portion of long-term borrowings, was \$822 million during 1980 (calculated by averaging all month-end balances for the year) compared with an average balance of \$705 million in 1979. The maximum balance included in these calculations was \$962 million and \$727 million at the end of October 1980 and March 1979, respectively. The average effective interest rate for the year 1980 was 18.9%, and for 1979 was 17.6%. These average rates represent total short-term interest incurred divided by the average balance outstanding. A summary of short-term borrowings and the applicable interest rates is shown below.

Short-term borrowings

(In millions) December 31	1980		1979	
	Amount	Average rate at Dec. 31	Amount	Average rate at Dec. 31
Parent notes with trust departments	\$353	15.05%	\$290	12.62%
Consolidated affiliate bank borrowings	539	30.83	389	27.10
Other, including current portion of long-term borrowings	201		192	
	<u>\$1,093</u>		<u>\$871</u>	

Parent borrowings are from U.S. sources. Borrowings of consolidated affiliated companies are primarily from foreign sources. Other borrowings include amounts from nonconsolidated affiliates of \$95 million in 1980 (\$65 million in 1979).

Although the total unused credit available to the Company through banks and commercial credit markets is not readily quantifiable, informal credit lines in excess of \$1 billion had been extended by approximately 100 U.S. banks at year end.

15. Accounts payable

(In millions) December 31	1980	1979
Trade accounts	\$1,402	\$1,259
Collected for the account of others	203	172
Nonconsolidated affiliates	66	46
	<u>\$1,671</u>	<u>\$1,477</u>

16. Other costs and expenses accrued

The balances at year-end 1980 and 1979 included compensation and benefit costs accrued of \$703 million and \$641 million, respectively.

17. Long-term borrowings

(In millions) Outstanding December 31	1980	1979	Due date	Sinking fund/ prepayment period
General Electric Company:				
5¼% Notes	\$ 62	\$ 69	1991	1972-90
5.30% Debentures	70	80	1992	1973-91
7½% Debentures	135	149	1996	1977-95
8½% Debentures	288	295	2004	1985-03
Utah International Inc.:				
Notes with banks	37	5	1993	1981-93
8% Guaranteed Sinking Fund Debentures	15	17	1987	1977-87
7.6% Notes	28	32	1988	1974-88
Other	32	25		
General Electric Overseas Capital Corporation:				
4¼% Bonds	23	24	1985	1976-84
4¼% Debentures	50	50	1987	None
5½% Sterling/ Dollar Guaranteed Loan Stock	9	8	1993	None
Other	34	37		
All other	<u>217</u>	<u>156</u>		
	<u>\$1,000</u>	<u>\$947</u>		

The amounts shown above are after deduction of the face value of securities held in treasury as shown below.

Face value of long-term borrowings in treasury

(In millions) December 31	1980	1979
General Electric Company:		
5.30% Debentures	\$50	\$50
7½% Debentures	35	29
8½% Debentures	12	5
General Electric Overseas Capital Corporation:		
4¼% Bonds	6	7

Utah International Inc. notes with banks were subject to average interest rates at year-end 1980 and 1979 of 11.3% and 7.9%, respectively.

Borrowings of General Electric Overseas Capital Corporation are unconditionally guaranteed by General Electric as to payment of principal, premium if any, and interest. This Corporation primarily assists in financing capital requirements of foreign companies in which General Electric has an equity interest, as well as financing certain customer purchases.

Borrowings include 4¼% Guaranteed Debentures due in 1987, which are convertible into General Electric common stock at \$80.75 a share, and 5½% Sterling/Dollar Guaranteed Loan Stock due in 1993 in the amount of £3.6 million (\$9 million), convertible into GE common stock at \$73.50 a share. During 1980 and 1979, General Electric Overseas Capital Corporation 4¼% Guaranteed Bonds having a face value and a reacquired cost of \$2 million were retired in accordance with sinking fund provisions.

All other long-term borrowings were largely by foreign and real estate development affiliates with various interest rates and maturities and included amounts due to nonconsolidated affiliates of \$7 million in 1980 and 1979.

Long-term borrowing maturities during the next five years, including the portion classified as current, are \$91 million in 1981, \$130 million in 1982, \$62 million in 1983, \$42 million in 1984 and \$68 million in 1985. These amounts are after deducting reacquired debentures held in treasury for sinking fund requirements.

18. Common stock

	1980	1979	1980	1979
	(In millions)		(Thousands of shares)	
Common stock issued				
Balance January 1 and December 31	<u>\$ 579</u>	<u>\$ 579</u>	<u>231,464</u>	<u>231,464</u>
Amounts received for stock in excess of par value				
Balance January 1	\$ 656	\$ 658		
Gain/(loss) on disposition of treasury stock	<u>3</u>	<u>(2)</u>		
Balance December 31	<u>\$ 659</u>	<u>\$ 656</u>		
Common stock held in treasury				
Balance January 1	\$ 180	\$ 172	3,625	3,428
Purchases	145	156	2,684	3,155
Dispositions:				
Employee savings plans	(99)	(124)	(1,879)	(2,492)
Employee stock ownership plan	(16)	(11)	(296)	(213)
Incentive compensation plans	(7)	(8)	(158)	(152)
Stock options and appreciation rights	(14)	(5)	(275)	(101)
Conversion of Overseas Capital Corporation loan stock	—	—	(2)	—
Balance December 31	<u>\$ 189</u>	<u>\$ 180</u>	<u>3,699</u>	<u>3,625</u>

At December 31, 1980, and December 31, 1979, respectively, 227,765,000 and 227,839,000 common shares were outstanding. Common stock held in treasury at December 31, 1980, included 1,921,706 shares for the deferred compensation provisions of incentive compensation plans (1,785,656 shares at December 31, 1979). These shares are carried at market value at the time of allotment, which amounted to \$96 million and \$88 million at December 31, 1980 and 1979, respectively. The liability is recorded under other liabilities.

Other common stock in treasury, which is carried at cost, aggregated 1,777,382 and 1,839,762 shares at December 31, 1980 and 1979, respectively. These shares are held for future corporate requirements, including distributions under employee savings plans, incentive compensation awards and possible conversion of General Electric Overseas Capital Corporation convertible indebtedness. The maximum number of shares required for conversions was 736,079 at December 31, 1980 (737,725 at December 31, 1979). Corporate requirements of shares for benefit plans and conversions may be met either from unissued shares or from shares in treasury.

During 1978, the balance in common stock issued did not change, amounts received for common stock in excess of par value decreased by \$10 million, and the balance of common stock held in treasury increased by \$6 million.

19. Retained earnings

Retained earnings at year-end 1980 included approximately \$251 million (\$246 million at December 31, 1979) representing the excess of earnings of nonconsolidated affiliates over dividends received since their formation. In

addition, retained earnings have been increased by \$10 million (\$5 million reduction at December 31, 1979), which represents the change in equity in associated companies since acquisition.

20. Stock option information

Stock option plans, appreciation rights and performance units are described in the Company's current Proxy Statement. A summary of stock option transactions during the last two years is shown below:

Stock options

	Shares subject to option	Average per share	
		Option price	Market price
Balance at January 1, 1979	4,088,853	\$51.37	\$47.13
Options granted	1,023,122	46.25	46.25
Options exercised	(98,145)	40.63	50.14
Options surrendered on exercise of appreciation rights	(68,834)	40.52	49.17
Options terminated	(186,068)	50.77	—
Balance at December 31, 1979	4,758,928	50.67	50.63
Options granted	98,100	61.50	61.50
Options exercised	(273,193)	44.13	56.16
Options surrendered on exercise of appreciation rights	(123,350)	41.93	54.92
Options terminated	(157,163)	51.02	—
Balance at December 31, 1980	<u>4,303,322</u>	51.56	61.25

The number of shares available for granting additional options at the end of 1980 was 1,862,756 (1,831,456 at the end of 1979).

21. Commitments and contingent liabilities

Lease commitments and contingent liabilities, consisting of guarantees, pending litigation, taxes and other claims, in the opinion of management, are not considered to be material in relation to the Company's financial position.

Industry segment information

(In millions)	Revenues								
	For the years ended December 31								
	Total revenues			Intersegment sales			External sales and other income		
	1980	1979	1978	1980	1979	1978	1980	1979	1978
Consumer products and services	\$ 5,599	\$ 5,358	\$ 4,788	\$ 201	\$ 199	\$ 188	\$ 5,398	\$ 5,159	\$ 4,600
Net earnings of GE Credit Corp.	115	90	77	—	—	—	115	90	77
Total consumer products and services	5,714	5,448	4,865	201	199	188	5,513	5,249	4,677
Industrial products and components	5,157	4,803	4,124	565	508	468	4,592	4,295	3,656
Power systems	4,023	3,564	3,486	175	210	174	3,848	3,354	3,312
Technical systems and materials	7,128	6,061	4,745	258	255	190	6,870	5,806	4,555
Natural resources	1,374	1,260	1,032	—	—	—	1,374	1,260	1,032
Foreign multi-industry operations	3,234	2,901	2,767	75	64	55	3,159	2,837	2,712
Corporate items and eliminations	(1,107)	(1,057)	(946)	(1,274)	(1,236)	(1,075)	167	179	129
Total	<u>\$25,523</u>	<u>\$22,980</u>	<u>\$20,073</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$25,523</u>	<u>\$22,980</u>	<u>\$20,073</u>

	Operating profit			Net earnings		
	For the years ended December 31			For the years ended December 31		
	1980	1979	1978	1980	1979	1978
Consumer products and services	\$ 558	\$ 568	\$ 574	\$ 292	\$ 311	\$ 300
Net earnings of GE Credit Corp.	115	90	77	115	90	77
Total consumer products and services	673	658	651	407	401	377
Industrial products and components	568	485	426	315	272	223
Power systems	194	174	196	141	114	93
Technical systems and materials	774	672	545	373	356	278
Natural resources	404	431	372	224	208	180
Foreign multi-industry operations	285	241	245	68	65	76
Total segment operating profit	2,898	2,661	2,435			
Interest and other financial charges	(314)	(258)	(224)			
Corporate items and eliminations	(91)	(12)	(58)	(14)	(7)	3
Total	<u>\$ 2,493</u>	<u>\$ 2,391</u>	<u>\$ 2,153</u>	<u>\$ 1,514</u>	<u>\$ 1,409</u>	<u>\$ 1,230</u>

	Assets			Property, plant and equipment		
	At December 31			For the years ended December 31		
	1980	1979	1978	Additions	Depreciation, depletion and amortization	
	1980	1979	1978	1980	1979	1978
Consumer products and services	\$ 2,325	\$ 2,157	\$ 2,018	\$ 238	\$ 208	\$ 169
Investment in GE Credit Corp.	931	817	677	—	—	—
Total consumer products and services	3,256	2,974	2,695	238	208	169
Industrial products and components	2,595	2,329	2,125	224	176	166
Power systems	2,289	2,135	2,105	129	101	84
Technical systems and materials	4,475	3,422	2,683	693	444	289
Natural resources	2,109	1,679	1,489	446	201	212
Foreign multi-industry operations	2,564	2,259	2,100	161	109	119
Corporate items and eliminations	1,223	1,846	1,839	57	23	16
Total	<u>\$18,511</u>	<u>\$16,644</u>	<u>\$15,036</u>	<u>\$ 1,948</u>	<u>\$ 1,262</u>	<u>\$ 1,055</u>

	1980	1979	1978	1980	1979	1978
Depreciation, depletion and amortization	\$ 133	\$ 115	\$ 104	133	115	104
	—	—	—	—	—	—
	109	106	91	91	84	79
	200	163	150	200	163	150
	94	83	77	94	83	77
	66	61	64	66	61	64
	14	12	11	14	12	11
Total	<u>\$ 707</u>	<u>\$ 624</u>	<u>\$ 576</u>	<u>\$ 707</u>	<u>\$ 624</u>	<u>\$ 576</u>

Consumer Products and Services consists of major appliances, air conditioning equipment, lighting products, housewares and audio products, television receivers, and broadcasting and cablevision services. It also includes service operations for major appliances, air conditioners, TV receivers, and housewares and audio products.

General Electric Credit Corporation, a wholly owned nonconsolidated finance affiliate, engages primarily in consumer, commercial and industrial financing, principally in the U.S. It also participates, to a lesser degree, in life insurance and fire and casualty insurance activities. Products of companies other than GE constitute virtually all products financed by GECC.

Industrial Products and Components includes components (appliance controls, small motors and electronic components); industrial capital equipment (construction, automation and transportation); maintenance, inspection, repair and rebuilding of electric, electronic and mechanical apparatus; and a network of supply houses offering products of General Electric and other manufacturers.

Power Systems includes steam turbine-generators, gas turbines, nuclear power reactors and nuclear fuel assemblies, transformers, switchgear, meters, and installation and maintenance engineering services.

Technical Systems and Materials consists of jet engines for aircraft, industrial and marine applications; electronic and other high-technology products and services primarily for aerospace applications and defense; materials (engineered plastics, silicones, industrial cutting materials, laminated and insulating materials, and batteries); medical and communications equipment; and time sharing, computing, and remote data processing.

Natural Resources includes the mining of coking coal (principally in Australia), uranium, steam coal, iron and copper. In addition, it includes oil and natural gas production, ocean shipping (primarily in support of mining operations) and land acquisition and development.

Foreign Multi-industry Operations consists principally of foreign affiliates which manufacture products primarily for sale in their respective home markets.

Net earnings for industry segments include allocation of corporate interest income, expense and other financial charges to parent company components based on change in individual component average nonfixed investment. Interest and other financial charges of affiliated companies recognize that such companies generally service their own debt.

General corporate expenses are allocated principally on the basis of cost of operations, with certain exceptions and reductions which recognize the varying degrees to which affiliated companies maintain their own corporate structures.

In addition, provision for income taxes (\$958 million in 1980, \$953 million in 1979, and \$894 million in 1978) is allocated based on the total corporate effective tax rate, except for GECC and Natural Resources, whose income taxes are calculated separately.

Minority interest (\$21 million in 1980 and \$29 million in both 1979 and 1978) is allocated to operating components having responsibility for investments in consolidated affiliates.

In general, it is GE's policy to price internal sales as nearly as practicable to equivalent commercial selling prices.

Geographic segment information

(In millions)	Revenues For the years ended December 31								
	Total revenues			Intersegment sales			External sales and other income		
	1980	1979	1978	1980	1979	1978	1980	1979	1978
United States	\$20,750	\$18,859	\$16,443	\$ 484	\$ 467	\$ 362	\$20,266	\$18,392	\$16,081
Far East including Australia	1,277	1,183	1,109	355	280	242	922	903	867
Other areas of the world	4,459	3,814	3,270	124	129	145	4,335	3,685	3,125
Elimination of intracompany transactions	(963)	(876)	(749)	(963)	(876)	(749)	—	—	—
Total	\$25,523	\$22,980	\$20,073	\$ —	\$ —	\$ —	\$25,523	\$22,980	\$20,073

(In millions)	Net Earnings For the years ended December 31								
	1980			1979			1978		
	1980	1979	1978	1980	1979	1978	1980	1979	1978
United States	\$ 1,175	\$ 1,120	\$ 961	\$13,732	\$12,693	\$11,410	\$13,732	\$12,693	\$11,410
Far East including Australia	169	174	170	1,090	842	889	1,090	842	889
Other areas of the world	181	120	104	3,808	3,207	2,827	3,808	3,207	2,827
Elimination of intracompany transactions	(11)	(5)	(5)	(119)	(98)	(90)	(119)	(98)	(90)
Total	\$ 1,514	\$ 1,409	\$ 1,230	\$18,511	\$16,644	\$15,036	\$18,511	\$16,644	\$15,036

Geographic segment information (including allocation of income taxes and minority interest in earnings of consolidated affiliates) is based on the location of the operation furnishing goods or services. Included in United States revenues were export sales to unaffiliated customers of \$3,781 million in 1980, \$2,772 million in 1979, and \$2,571 million in 1978. Of such sales, \$2,089 million in 1980 (\$1,581 million in 1979 and \$1,662 million in 1978) were to customers in Europe, Africa and the Middle East; and \$926 million in 1980 (\$741 million in 1979 and \$498 million in 1978) were to customers in the Far East including Australia.

U.S. revenues also include royalty and licensing income from unaffiliated foreign sources.

Revenues, net earnings and assets associated with foreign operations are shown in the tabulations above. At December 31, 1980, foreign operation liabilities, minority interest in equity and GE interest in equity were \$2,562 million, \$141 million and \$2,195 million, respectively. On a comparable basis, the amounts were \$2,101 million, \$139 million and \$1,809 million, respectively, at December 31, 1979; and \$1,910 million, \$150 million and \$1,656 million, respectively, at December 31, 1978.

Ten-year summary (a)

Selected financial data

(Dollar amounts in millions; per-share amounts in dollars)

	1980	1979	1978	1977	1976
Summary of operations					
Sales of products and services to customers	\$24,959	\$22,461	\$19,654	\$17,519	\$15,697
Cost of goods sold	17,751	15,991	13,915	12,288	11,048
Selling, general and administrative expense	4,258	3,716	3,205	3,011	2,635
Depreciation, depletion and amortization	707	624	576	522	486
Operating costs	<u>22,716</u>	<u>20,331</u>	<u>17,696</u>	<u>15,821</u>	<u>14,169</u>
Operating margin	2,243	2,130	1,958	1,698	1,528
Other income	564	519	419	390	274
Interest and other financial charges	(314)	(258)	(224)	(199)	(175)
Earnings before income taxes and minority interest	2,493	2,391	2,153	1,889	1,627
Provision for income taxes	(958)	(953)	(894)	(773)	(668)
Minority interest	(21)	(29)	(29)	(28)	(28)
Net earnings	<u>\$ 1,514</u>	<u>\$ 1,409</u>	<u>\$ 1,230</u>	<u>\$ 1,088</u>	<u>\$ 931</u>
Earnings per common share (b)	\$ 6.65	\$ 6.20	\$ 5.39	\$ 4.79	\$ 4.12
Dividends declared per common share (c)	\$ 2.95	\$ 2.75	\$ 2.50	\$ 2.10	\$ 1.70
Earnings as a percentage of sales	6.1%	6.3%	6.3%	6.2%	5.9%
Earned on average share owners' equity	19.5%	20.2%	19.6%	19.4%	18.9%
Dividends—General Electric	\$ 670	\$ 624	\$ 570	\$ 477	\$ 333
Dividends—Utah International Inc. (d)	—	—	—	—	\$ 28
Shares outstanding—average (in thousands) (e)	227,541	227,173	227,985	227,154	225,791
Share owner accounts—average	524,000	540,000	552,000	553,000	566,000
Market price range per share (c) (f)	63-44	55½-45	57½-43½	57¼-47¾	59¼-46
Price/earnings ratio range (c)	9-7	9-7	11-8	12-10	14-11
Current assets	\$ 9,883	\$ 9,384	\$ 8,755	\$ 7,865	\$ 6,685
Current liabilities	7,592	6,872	6,175	5,417	4,605
Working capital	<u>\$ 2,291</u>	<u>\$ 2,512</u>	<u>\$ 2,580</u>	<u>\$ 2,448</u>	<u>\$ 2,080</u>
Short-term borrowings	\$ 1,093	\$ 871	\$ 960	\$ 772	\$ 611
Long-term borrowings	1,000	947	994	1,284	1,322
Minority interest in equity of consolidated affiliates	154	152	151	132	119
Share owners' equity	8,200	7,362	6,587	5,943	5,253
Total capital invested	<u>\$10,447</u>	<u>\$ 9,332</u>	<u>\$ 8,692</u>	<u>\$ 8,131</u>	<u>\$ 7,305</u>
Earned on average total capital invested	17.3%	17.6%	16.3%	15.8%	15.1%
Share owners' equity per common share—year end (b)	\$ 36.00	\$ 32.31	\$ 28.88	\$ 26.05	\$ 23.18
Total assets	\$18,511	\$16,644	\$15,036	\$13,697	\$12,050
Property, plant and equipment additions	\$ 1,948	\$ 1,262	\$ 1,055	\$ 823	\$ 740
Employees—average worldwide	402,000	405,000	401,000	384,000	380,000

(a) Unless specifically noted, all years are adjusted to include Utah International Inc., which became a wholly owned affiliate of General Electric on December 20, 1976, through the exchange of 41,002,034 shares of General Electric common stock for all of the outstanding shares of Utah.

(b) Computed using outstanding shares as described in note (e).

(c) For General Electric common stock as reported in the years shown.

(d) Reflects transactions prior to merger date.

(e) Includes General Electric outstanding average shares or year-end shares as appropriate, plus, in 1976 and prior years, outstanding shares previously reported by Utah multiplied by 1.3. Adjustments have been made for the two-for-one Utah stock split effected in the form of stock dividends in 1973.

(f) Represents high and low market prices as reported on New York Stock Exchange through January 23, 1976, and as reported on the Consolidated Tape thereafter.

Other information

1975	1974	1973	1972	1971
\$14,105	\$13,918	\$11,945	\$10,474	\$9,557
10,210	10,092	8,445	7,381	6,809
2,238	2,240	2,058	1,872	1,686
470	415	372	344	290
12,918	12,747	10,875	9,597	8,785
1,187	1,171	1,070	877	772
174	207	203	207	177
(187)	(197)	(143)	(121)	(102)
1,174	1,181	1,130	963	847
(460)	(458)	(457)	(385)	(333)
(26)	(18)	(12)	(5)	(4)
\$ 688	\$ 705	\$ 661	\$ 573	\$ 510
\$ 3.07	\$ 3.16	\$ 2.97	\$ 2.57	\$ 2.30
\$ 1.60	\$ 1.60	\$ 1.50	\$ 1.40	\$ 1.38
4.9%	5.1%	5.5%	5.5%	5.3%
15.7%	17.8%	18.4%	17.5%	17.2%
\$ 293	\$ 291	\$ 273	\$ 255	\$ 250
\$ 33	\$ 24	\$ 14	\$ 13	\$ 11
224,262	222,921	222,631	222,503	221,591
582,000	566,000	543,000	542,000	529,000
52 $\frac{7}{8}$ -32 $\frac{3}{8}$	65-30	75 $\frac{7}{8}$ -55	73-58 $\frac{1}{4}$	66 $\frac{1}{2}$ -46 $\frac{1}{2}$
17-10	19-9	24-17	25-20	26-18
\$ 5,750	\$ 5,334	\$ 4,597	\$ 4,057	\$3,700
4,163	4,032	3,588	2,921	2,894
\$ 1,587	\$ 1,302	\$ 1,009	\$ 1,136	\$ 806
\$ 667	\$ 656	\$ 676	\$ 453	\$ 582
1,239	1,403	1,166	1,191	1,016
105	86	63	54	50
4,617	4,172	3,774	3,420	3,106
\$ 6,628	\$ 6,317	\$ 5,679	\$ 5,118	\$4,754
12.5%	13.4%	13.7%	12.7%	12.3%
\$ 20.49	\$ 18.65	\$ 16.94	\$ 15.35	\$13.96
\$10,741	\$10,220	\$ 9,089	\$ 8,051	\$7,472
\$ 588	\$ 813	\$ 735	\$ 501	\$ 711
380,000	409,000	392,000	373,000	366,000

Quarterly dividend and stock market information

	Dividends declared		Common stock market price range	
	1980	1979	1980	1979
First quarter	70¢	65¢	\$57 $\frac{1}{2}$ -\$44	\$50 $\frac{3}{8}$ -\$45 $\frac{1}{2}$
Second quarter	75	70	52 - 44 $\frac{1}{2}$	51 $\frac{5}{8}$ - 46 $\frac{7}{8}$
Third quarter	75	70	58 $\frac{1}{8}$ - 51 $\frac{1}{8}$	55 $\frac{1}{8}$ - 49 $\frac{1}{8}$
Fourth quarter	75	70	63 - 51 $\frac{1}{2}$	52 $\frac{1}{4}$ - 45

The New York Stock Exchange is the principal market on which GE common stock is traded and, as of December 8, 1980, there were approximately 512,282 share owners of record.

Operations by quarter for 1980 and 1979

(Dollar amounts in millions; per-share amounts in dollars)	First quarter	Second quarter	Third quarter	Fourth quarter
1980:				
Sales of products and services to customers	\$5,881	\$6,197	\$5,963	\$6,918
Operating margin	527	556	513	647
Net earnings	342	403	358	411
Net earnings per common share	1.50	1.77	1.58	1.80
1979:				
Sales of products and services to customers	\$5,082	\$5,642	\$5,609	\$6,128
Operating margin	470	598	511	551
Net earnings	303	382	341	383
Net earnings per common share	1.33	1.69	1.50	1.68

Dividend Reinvestment Plan

GE share owners whose Company stock is registered in their own names and whose addresses of record are in the United States or its territories or possessions are eligible to participate in the GE Dividend Reinvestment Plan. For information on the plan, write to: Share Owner Records, General Electric Company, P.O. Box 206, Schenectady, N.Y. 12301.

Form 10-K and other supplemental information

The financial information in this Report, in the opinion of management, substantially conforms with or exceeds the information required in the "10-K Report" submitted to the Securities and Exchange Commission. Certain supplemental information, considered nonsubstantive, is included in that report, however, and copies will be available without charge, on or about May 1, from: **Investor Relations, General Electric Company, Fairfield, Connecticut 06431.**

Copies of the General Electric Pension Plan, the Summary Annual Reports for GE employee benefit plans subject to the Employee Retirement Income Security Act of 1974, and other GE employee benefit plan documents and information are available by writing to Investor Relations and specifying the information desired.

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Annual Report Issue

General Electric Company
Fairfield, Connecticut 06431

Research and Development

GER&D expanded in 1980: Continuing to base its sales and earnings growth in large part on innovative technologies, General Electric spent a record \$1,598 million on research and development activities in 1980. This included an increase of 19% from 1979 to \$760 million in expenditures of the Company's own funds. The balance of \$838 million was done under contract, primarily for the U.S. government.

At the corporate Research and Development Center, scientists are playing a key role in the "electronics revolution," producing smaller, faster microcircuits for everything from "intelligent" home appliances to jam-resistant military communications systems. During 1980, they tested an advanced ultrasonic cardiac scanner that can provide moving pictures of the human heart via sound waves.

Higher manufacturing productivity will result from computer and robot technologies in the

"factory of the future." The year saw the first tests of a computer-designed injection mold for plastic parts, and a developmental GE robot showed its ability to assemble scores of different types of electric motors. New techniques—some using lasers—were tested for machining tough materials at higher speeds than ever before.

In energy, the Company's R&D efforts focus on clean methods for converting coal into electricity, and on ways to reduce energy consumption. Examples of the latter include new fuel-conserving turbofan aircraft engines; energy-efficient lamps; ac adjustable-speed drives; and energy-saving appliances.

R&D activities pictured below include a unique research facility (left) to study gasified coal-fueled power generation, and studies using interactive graphics to boost productivity by computer-aided design.

